

# SUPPLEMENT.

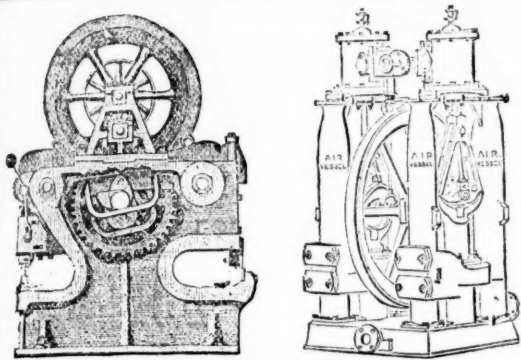
## The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE: FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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No. 2011.—VOL. XLIV.

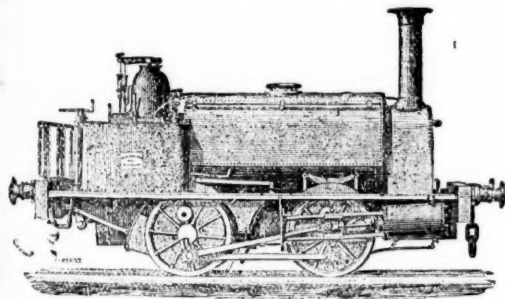
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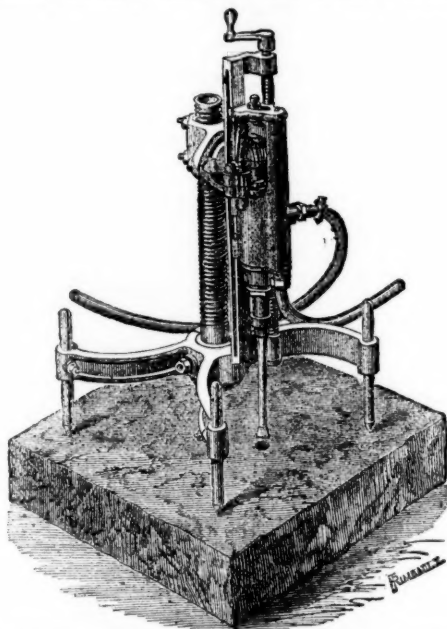
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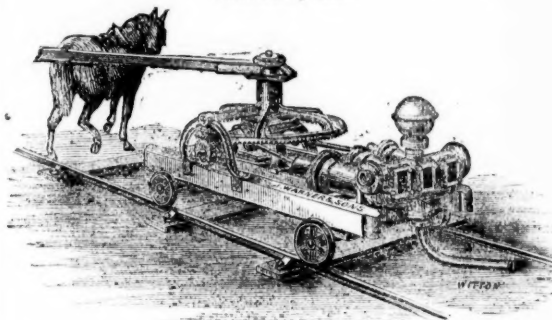
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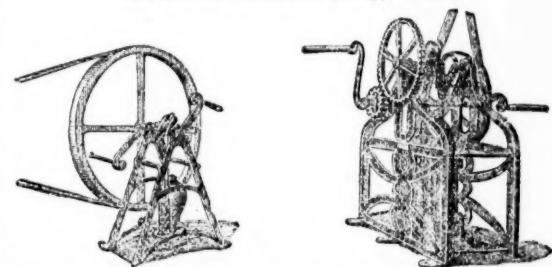
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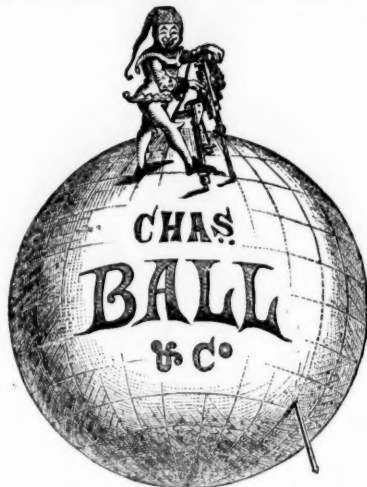
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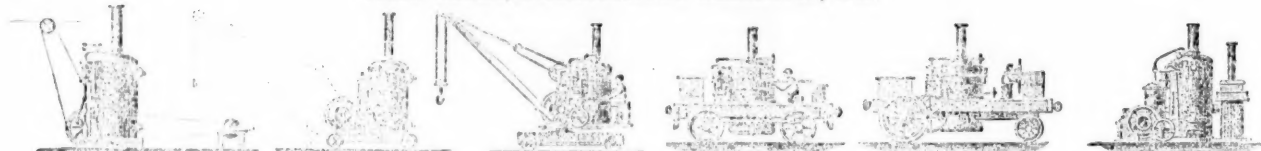
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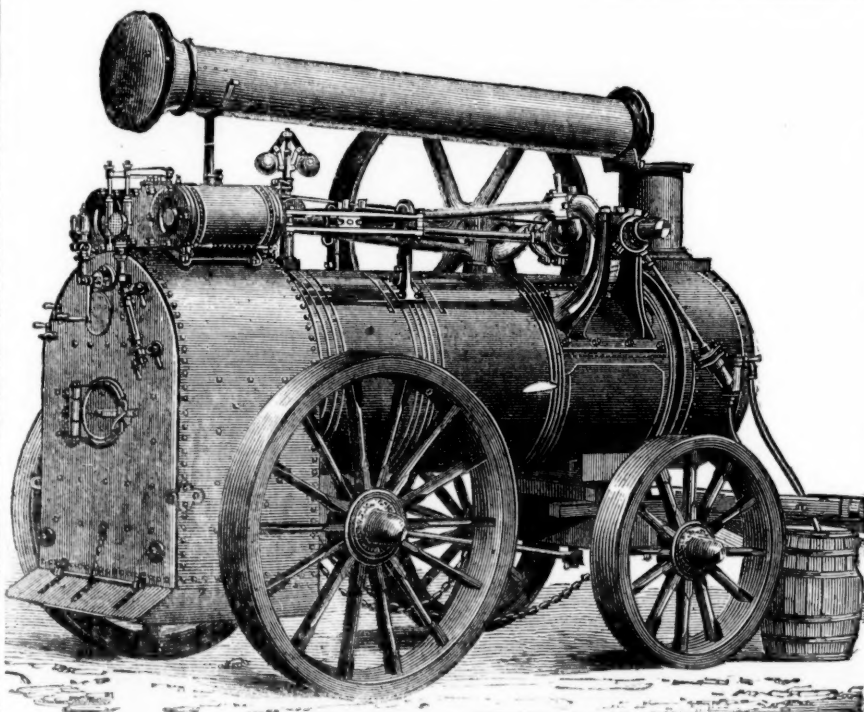


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## Original Correspondence.

## COLORADO MINES AS A FIELD FOR INVESTMENT.

With reference to the letter under this heading, signed Daniel Roberts, and dated from Georgetown, Clear Creek county, Dec. 16, published in the Journal of Jan. 10, we have reason to believe that the disparaging remarks therein contained, so far as they may be regarded as intended to apply to the Hall Valley Silver-Lead Mining and Smelting Company, of which Col. Hall, of Hall Valley, is the managing director, are not justifiable by fact.

## NEW MEXICO, AND ITS MINES.

Sir.—As this portion of the United States is soon to be brought prominently before the notice of the public, and as I am professionally engaged to explore the great copper region on the Rio Grande, reports on which will be furnished in due course, for publication in the *Mining Journal*. I have thought the following notes would be an excellent prelude. They are furnished me by Mr. Henry C. Justice, a gentleman who has been for the past 18 months investigating the merits of its metalliferous resources, and being an old Colorado prospector is well able to judge the value of mineral lands:—

The early history of New Mexico, written by the Spaniards, or rather by the Franciscan friars, for they were the first to prosecute their explorations north after the conquest of Old Mexico, reveals to us the fact that the Territory at a very early period had acquired the reputation of possessing mines of fabulous richness in gold, silver, and copper. The aborigines, as it appears, had made considerable advancement in the art of smelting and the working of metals, for they wore on their persons ornaments of gold, silver, and copper fashioned by moulding and welding. In many instances the walls of their dwellings were profusely adorned with the precious metals, and the altars of their places of worship especially so.

The Franciscan friars who first penetrated the Territory were an intelligent and highly-educated class of men, schooled in all the arts and science of the period, particularly those of metallurgy and mining. They were peculiarly qualified to judge of the latent resources of a new country. They saw among the natives the evidences of so much mineral wealth that it excited their wonder and cupidity. Their reports of the existence of vast deposits of the precious metals inflamed their countrymen, and inspired a desire for adventure. Expeditions were organised to conquer this El Dorado for the Crown of Spain. After many campaigns, fought with untold hardships and privations, at the expense of millions of treasure and the sacrifice of many thousands of lives, their efforts were crowned with success. The natives were reduced to a bondage far more rigorous than the sons of Africa ever endured in any land; they were made beasts of burden, condemned to work in opening and developing the mines in all parts of the Territory; they were compelled to pack ores and fuel on their backs for many miles to the furnaces, under the lash of the most cruel task masters. Thus was Spanish greed fed and fostered. The evidences of their active mining operations are to be seen in almost every mountain and valley throughout the country. Old shafts and tunnels are frequently being found, now, partially filled with the debris of ages, that excite the wonder and speculation of the prospector. The Taos Mountains are full of them; many are hundreds of feet deep, with levels excavated every way from the shaft. One of these old shafts, sunk on a silver lode near the old town of Abiquien, is very deep, and levels excavated 700 ft. long in one direction. The records of this ancient mine, as found in the archives of an old church near by, show that the 10 per cent. in tithes collected from it for the benefit of the church amounted to \$10,000,000; the total yield, therefore, was \$100,000,000. No work has been done on it since 1683. There are also evidences of very extensive mine works in the Cerillos Mountains, 18 miles south of Santa Fe. Old shafts and excavations are quite numerous; the ores found on the old dumps are rich in silver. There are also many shafts found in the Sandia Mountains, a few miles further south. There is an old turquoise mine in the Cerillos Mountains, that looks as if it had been worked 1000 years ago: the mine is located on a broad and extended ridge, has been worked from both sides to the distance of 300 ft. or more, and the excavations are at least 200 ft. wide and 100 ft. deep.

In the town of Santa Fe (the capital of the Territory) there was silver ore dug up last summer from 2 and 3 ft. under the surface that assayed from \$250 to \$300 per ton. The great amount of slag and cinders scattered about the locality indicates that there had been a smelting furnace in active operation here at some unknown period. The oldest inhabitants of the town have no knowledge of the furnace or the mine. No ore like it has yet been found in the Territory, yet it could not have been brought from any very great distance. Since the massacre of the Spaniards by the Pueblo Indians, in 1683, all the richest mines have been covered up by them, and all traces so obliterated that they are only known and kept in the traditions of the old chiefs and rulers of the various bands, and who cannot be induced under any circumstances to make their knowledge public. There are traditions among the people of immense amounts of buried treasure that was hastily hidden at the time of the massacre. La Gran Quiver is the ruin of an ancient Indian Pueblo; it was a ruin when the Spaniards first discovered the country; its location is a few miles south-west of the Galenas Mountains. There is abundant evidence that it was the name of a race of miners; we find the remains of old furnaces, slags and cinders scattered profusely around, with numerous shafts and excavations in the adjacent foothills and mountains, which indicate whence they derived their ores. The Aztecs told their conquerors that their gold and silver came from a long way to the north. There are many reasons in support of the belief that New Mexico furnished vast amounts of gold, silver, and copper to Montezuma prior to the conquest, a practical geological survey would reveal an amount of wealth almost startling. As yet the country is but little known. The writer knows of several deposits of gold, silver, and copper that he believes richer than any discoveries yet made in the Territory. Near Fort Stanton, in Lincoln county, he discovered last summer some remarkably rich gold and silver lodes.

In 1704 the Spanish people entered into a compromise with the Pueblo Indians, by which the former were permitted to return to the country, but with the positive and express condition that they should not open the mines, or prosecute mining as a pursuit. Therefore, up to within 15 years past, there has been no mining prosecuted in the Territory since 1683. After their return the Spanish people turned their attention to trading, agriculture, and the raising of cattle. Inter-marriage with the natives has produced a hybrid and degenerate race; laziness and indolence are prominent characteristics of the present people; they devote most of their time to gambling, dancing, and drinking, live from hand to mouth, always in debt to the Jew traders, and the few of their own race who have managed to improve their condition. They work some of the rich placers in their crude way, but when they have washed out \$25 or \$30 worth of gold they quit work, and resort to their favourite game of monte until their dust is all gone; they then return to the diggings to make another raise, and so on continually.

Nearly all the mining at present is prosecuted by Americans, with remunerative results. The most prominent mining localities at present are Silver City, Pinos Altos, Socorro, and Jaquirailla. There is a chain of gold placers extending from the northern boundary down through the centre of the Territory to the southern boundary; many of them have been worked by the natives for hundreds of years, by carrying water from six to eight miles in barrels and skins, and then make by pan and rocker from \$5 to \$8 per day to the hand, yet the mines are scarcely touched. Many of them to-day would rival the richest placers ever discovered either in California or Australia if there was water convenient to work them.

Silver City is located in the south-west corner of the Territory, 420 miles from Santa Fe. Though comparatively a new town, it is rapidly growing into prominence; it is the centre of a large area of the most promising mining country in the Rocky Mountains. Within the past two years several fine stamp-mills and other reduction works have been erected, and all seem to be doing well. Deposits of the chloride of silver are proving to be very extensive and remarkably rich. I am of the opinion that the most promising mines have not been struck yet. The mineral belt of the region covers a vast extent

of country containing gold, silver, copper, iron, and many other minerals. The copper mines located in its immediate vicinity will, in my opinion, prove to be the richest hitherto discovered in the world; they are very accessible, and many are true fissure veins. The ores are mostly carbonates, easy of reduction, and contain no refractory substances. The country is favourable for extensive mining operations, climate salubrious, water and timber abundant; the grasses are nutritious and grow luxuriantly. Work can be prosecuted throughout the entire year without the slightest interference from either cold or snow. The surveyed line of the Texas and Pacific Railroad is located within a few miles, giving it an outlet to the commerce of the world. Taking all its improvements and the immensity of its resources into consideration, I predict for Silver City a grand and brilliant future.

The Pinos Altos Gold Quartz and Placer Mines are located eight miles north of Silver City, and are the oldest worked mines in the region. There is one stamp-mill that was erected there several years ago; it did well for a time, and would do well now under proper management. The Pinos Altos Gold Mine has undoubtedly a rich lode, and presents all the evidences of a true fissure. There has been a large amount of gold taken from the placer, and is not yet worked out.

The Socorro Silver Mines are located in the Magdalena Mountains, some 50 miles west of the Rio Grande Del Norte, and 150 miles south of Santa Fe. These mines furnish some remarkably rich silver ores, specimens assaying from \$5000 to \$7000 per ton. The ores carry galena and copper. Two or three common lead furnaces have been erected. Messrs. Smith and Hays are making arrangements to thoroughly test these mines this year. Most of the mountains lying on either side of the Rio Grande Del Norte abound in silver and copper. Prospectors call it the copper range. There are also large deposits of lignite and anthracite coal at various localities on the south.

The most important railroads projected through the Territory are the Texas Pacific, located on or near the 32° parallel, passing 50 miles south of Silver City, coming from El Paso; and the Atlantic and Pacific Railroad, coming up the Canadian river, and forming a junction with the Arkansas Valley Railroad at or near Galestoe, 26 miles south of Santa Fe, striking the Rio Grande at Santa Domingo, thence down the river to Albuquerque, and so on to the 35° parallel. There are other roads projected to enter the Territory from the north. The Kansas and Pacific Road will probably reach us first, though they are driving the Texas and Pacific Road rapidly. We look for railroad communication within less than two years.

Since receiving the above article a splendid assortment of rich silver and copper ores from the localities named have been received, and more is *in transitu*.  
CHARLES S. RICHARDSON,  
Mining Engineer, &c.

## NOVA SCOTIA GOLD FIELDS.

Sir.—Opposed to the theory of Capt. Sprague, the manager of the Eldorado Gold Mining Company, at Wm. Harbour, whose two years' experience in Nova Scotia has been limited to the one district where he resides, but who categorically assumes (see *Mining Journal* of Feb. 14) that "the Nova Scotia gold fields appear to be more suited to individual effort than to combined enterprise, and will never become sources of permanent investment to capitalists," allow me to cite the officially promulgated views of the late Mr. Auguste Michel and of Mr. A. R. C. Selwyn, formed upon more than 15 years familiarity with gold mining in various parts of the world.

In the report of Dr. T. Sterry Hunt, F.R.S., on the Gold Region of Nova Scotia, printed by order of the House of Commons at Ottawa, Mr. Michel is quoted as saying, page 13:—

"To abandon a working on account of a momentary impoverishment of the lode, as has too often been done in this region, is, therefore, unwise; and in a large enterprise, where mining is carried on in several veins at a time, the richness of some of these may always be counted upon to compensate for the temporary poverty of others. I am of the opinion that an unnecessary discouragement has had as much to do with the failure of certain gold mining enterprises in Nova Scotia as the want of scientific knowledge and the neglect of proper preparations, and that many of these now abandoned as unprofitable will be again taken up with advantage."

And at pages 14, 15:—  
"The successful direction of a quartz mine requires something more than a practical knowledge of the processes required for the extraction and treatment of the mineral; the science and the experience which provides for the future of the mining operations, and for the accidental variations of structure and arrangement sometimes met with in the veins, are not less necessary; and it is feared that all of these conditions have not been fulfilled by many of the directors of mining operations in Nova Scotia. I make this remark in no spirit of criticism, and with no intention of a special application of it to individual cases, but only to explain from my point of view the reasons of the failures of many mining enterprises which have been ascribed to impoverishment or disappearance of the vein, or to various difficulties of working, which would never have surprised, embarrassed, or discouraged a skilful and competent mining capitalist."

Mr. Selwyn's report on the Gold Fields of Quebec and Nova Scotia contains the following passages:—

"No definite law of general application seems to be yet known as affecting the distribution of gold in veins, beyond the knowledge of that regular irregularity which is more or less characteristic of ore deposits of all kinds and in every region."

"The distribution of the gold in 'streaks,' 'pipes,' or 'py-chimneys' in the quartz veins is a feature common to Nova Scotia, to Australia, and to California. These streaks are always found to have a dip more or less transverse to the dip of the vein; they sometimes vary greatly in width at different depths on the course of the vein, and are, therefore, more or less lenticular or wedge-shaped, not unfrequently dying out altogether before reaching the surface. In some veins they are stated to occur at no great distance apart, while in others they are separated by great thicknesses of comparatively barren quartz. Thus, in following the vein downwards, if the streak happens to be narrow, it is speedily passed through, and the sudden impoverishment of the quartz causes a mine to be abandoned, when, by a little further exploration in the direction of the dip of the streak a very different result might have been obtained."

The returns from the Eldorado Mine, worked chiefly on tribute without expense to the proprietors, thoroughly refutes the timid apprehensions and prejudices of its otherwise estimable manager.  
London, March 4.

## IRONWORKS IN TASMANIA.

Sir.—The enclosed reliable account of a visit to the works of two recently-formed companies in Tasmania to work the rich deposits of iron ore near the River Tamar, on the north side of the island, I consider will prove of interest to many of your readers if you would oblige by giving it insertion in the Journal.  
W. B.

London, March 4.

"On May 8, 1873, I embarked in the Pioneer for George Town. It rained hard all the way down the river, and our cabin was crammed with passengers, among whom were a dozen Chinamen bound to the diggings at the Nine Mile Springs. We took up our quarters for the night at the inn, and in the morning, accompanied by Dr. H. and Mr. N., we proceeded across the Tamar to inspect the iron works belonging to the Peninsular and Oriental Steam Navigation Company. A letter which I brought from Mr. J. for the manager of the establishment procured us every attention; and as soon as we landed we were provided with a brake drawn by two horses, upon which we proceeded on the tramway to the works, a distance of 4½ miles. At the landing end of the jetty there are 12 ft. of water. The tramway is defective, inasmuch as there are many steep ascents in it which ought to have been obviated by running the bridges 3 ft. or 4 ft., or even somewhat more. It took us three-quarters of an hour to reach the furnace; on returning afterwards we came down in 20 minutes. The smelting furnace has been erected on the place, and under the superintendence of Dr. H. It is a patent affair, the first of the kind that has ever been erected, and is entirely experimental. After looking at the furnace, accompanied by Mr. N., I proceeded to the hill of iron ore, brown hematite, situated within 200 or 300 yards of the furnace. It is a wonderful mass of ore, apparently inexhaustible, for they have bored into it 25 ft. and found it to reach that depth, and probably very much lower. The ley of this ore by analysis is 60 per cent., and is quite free from sulphur. There is a red earth (oxide) found in great abundance, which is shown to contain 50 per cent. of iron, and magnetic iron ore in small bits; the whole surface of the hill is covered over. The lode producing this magnetic ore is believed to exist somewhere close at hand, but has not yet been found. The ley of it is said to be 65 per cent. Of wood there are dense forests in the neighbourhood, a sufficient supply to last for many years. Limestone, too, is abundant, so that all the elements of success are near at hand. The hill of ore that I examined is called the Hill of Vulean, besides which there is another on the company's land of equal importance. A hill of serpentine, mixed with iron, and containing veins and strata of asbestos in quantity, lies a mile away from the works. A tramway will take the ore to the furnaces. The property consists of 450 acres. We remained at these mines until 4 o'clock P.M., during which time the doctor was employed in heating the furnace, and superintending alterations being made in some of the minutia of it preparatory to commencing active operations in smelting. We returned by the tramway to the jetty, and reached the hotel at Georgetown just before dark.

The following morning, the 10th, we again took boat and proceeded across the river to the Charcoal Company's jetty, landed, and went by tramway to the mines. Here we left Dr. H. to look after his furnace, and Mr. N. and myself took a guide and proceeded on foot across country to visit Capt. L., managing the works at the mine of the Hibernian Company. The road we travelled leads through the forest and bush, and over a hill some 1150 ft. high, at the foot of which stands the dwelling-house formerly belonging to Mr. E., but recently sold by him, together with the farm, to a Melbourne man for 3000l., the whole containing an area of 1100 acres, some of it cleared, but not much. This at present is the residence of Capt. L. At the works, where, as I said before, we met Capt. L., we found the foundation of a blast-furnace well forward, of which the corner stone has since been laid. The construction of this furnace is under the charge of Mr. D., an

able Scotch engineer, and no amount of precaution seems to be wanting to ensure a solid and good working furnace, such as might be expected to work well from the commencement, and to last many years. Round about these works the forest timber for charcoal seems to be inexhaustible, and the land to some extent very rich for agricultural purposes. The hill of ironstone is within a few yards or so of the furnace, and the ore will be brought on an incline tramway right down to the furnace. The supply would seem to be inexhaustible, situated on the very surface. Two lumps which I saw entirely above ground must contain 1000 tons or more. The ley of this ore, brown hematite, is 60 per cent. There does not appear to be any magnetic ore lying on the surface here, such as that which is found on the Charcoal Company's land; but there are indications of it, and the lode may probably be discovered later on. The mining here will be simply quarrying.  
H. B.

## NEW QUEBRADA COMPANY.

Sir.—It has come to my knowledge that some gentlemen who attended the meeting of shareholders of this company, held on Tuesday, expressed the suspicion that the remarks I felt it my duty, as chairman, to make on the position and prospects of the company, and its relations to the Bolivar Railway Company, were prompted by objects connected with speculations on the Stock Exchange, and that I was, in short, a "bear" of shares.

I beg you will permit me publicly to repudiate, in your columns, conduct of so disreputable a nature—conduct of which no one who knows me, however he may be opposed to me on the points of controversy which have arisen in this company, will, I feel certain, for one moment think me capable. I bought the 200 shares which constitute my qualification as a director on the first formation of the company, about 10 years ago, at, or nearly at, par. About six years ago I and a member of my family purchased some 80 shares more. During the last five or six years (I write from memory) I have never purchased or sold, or been indirectly concerned in buying or selling, a single share. During the recent negotiations which led to the formation of the Bolivar Railway Company, I was, owing to my peculiar position as the principal connecting link between the two companies, invariably in possession of the earliest information calculated to affect speculative transactions. I could easily have made a fortune by engaging in such operations. I take no credit whatever to myself for having abstained, as I did, from either speculating on my own account or assisting my friends in their speculations. It is rather hard to forego such advantages from honourable scruples, and then to find my honour called in question.

I maintain that no director of a public company should either speculate in its shares or hold them in any name but his own. In the one case he cannot hope to preserve the independence and judgment necessary for conducting advantageously to the shareholders the affairs entrusted to him; in the other case he may be tempted to control secretly the decisions of the shareholders, possibly in his own favour, by the use of votes and influence which no one supposes him to possess, and the possession of which he does not dare to avow.—London, March 5.

ALEX. STRANGE, Lieut.-Col.

P.S.—The statements above made may be verified, so far as my own share transactions are concerned, by reference to the books of the company.

## THE PACTOLUS AND BABE GOLD WASHING COMPANY.

Sir.—Two letters appeared in the Journal last week, respectively dated Jan. 31 and Feb. 4, referring to the above company. The purport of these letters is to the effect that the statements in the prospectus of the company are not trustworthy, in so far as the properties offered as security for 100,000l., together with the interest and bonuses, amounting in all to nearly 150,000l., are not worth more than 30,000l. I was considerably surprised to find that an English journal would insert letters containing such defamatory statements without the names of the writers, or the grounds of such statements being given. Reading the letters together, I am of opinion that they are both written by the same individual, and, therefore, I shall treat them as one. If the writer of the letters had really honestly wished to protect the British public, the least he could have done would have been to have satisfied himself of the correctness of the statements which he now only makes upon belief and hearsay.

I unhesitatingly assert, from personal knowledge of the property, that the statements in the prospectus, and in the report accompanying the same, are correct; and I most certainly shall endeavour to obtain redress for any injury the owners may suffer from the unfounded statements made in the letters referred to. For the present I will ask your readers to peruse the prospectus of the company, and I will leave them to decide whether any weight should be given to the belief of an anonymous writer, as against the judgment of the gentlemen whose names appear on the prospectus.

In evidence of the willingness of the owners to allow the fullest investigation as to the value of the property, I beg to draw your readers' attention to the following clause in the prospectus:—"The proceeds of these debentures will only be paid over to the company by the trustees upon a certificate of a person to be appointed by the debenture holders to inspect the property, that the representations of its value as stated in the prospectus, and in the documents referred to in the same, are respectively correct; and, further, upon the advice of the solicitors of the company that the company have a good title to assign the property of the company, and that the assignment to the trustees is a good and effective one."

JAMES L. POND, Local Manager.

Great Winchester-street, March 5.

[A more detailed communication in reference to this subject, for which we have not now space, will appear in next week's Journal.]

## AUSTRALIAN COAL.

Sir.—I beg to enclose to you copies of two circulars which have been addressed to me as a shareholder in the Peninsular and Oriental Steam Navigation Company. I also enclose a copy of my reply to circular No. 2, and to which, as bearing on a matter of importance to investors, perhaps you will give a place in your paper.  
March 5.

VERITAS.

Sir.—In addressing you, the shareholder of the Peninsular and Oriental Steam Navigation Company, we trust you will allow us to direct your attention to a matter largely affecting the profits of that company—i.e., the economical supply of coals at the Australian ports. It has for some time past been known that large and valuable coal fields exist in New South Wales, and that if the requisite capital were forthcoming they could be worked with the effect of very materially reducing the cost to consumers of coal, while at the same time they might yield large dividends to their proprietors.

With this view, the company described in the prospectus of the New South Wales Collieries has been formed, and we venture to think that its shares offer an investment of a secure and permanent nature. As, moreover, its establishment must prove of great benefit to the Peninsular and Oriental Steam Navigation Company, we feel that we may with confidence invite the proprietors of that company to subscribe for the shares now offered.

LONDON, KING, AND CO.,  
Brokers to the Company.

Peninsular and Oriental Steam Navigation Company,  
Office, 122, Leadenhall-street, London, Feb. 27.

It having come to the notice of the directors that a circular letter has been addressed to the proprietors of this company by the brokers of a project entitled "The New South Wales Collieries Company (Limited)," recommending the shares in that undertaking as a secure and profitable investment, I am instructed to state that this communication has been made without the sanction or knowledge of the board, or any of its members.

[REPLY.]

TO THE SECRETARY OF THE PENINSULAR AND ORIENTAL STEAM NAVIGATION CO.

Sir.—I am favoured with your circular of 27th inst., having reference to the proposed "New South Wales Collieries Company (Limited)," which I understand is discontinued by the board of our company. I am obliged to the directors for thus sending me a friendly caution, but I think it singular that two of the members of our board present themselves to the public as directors of a "project" which is thus discontinued, and that is calculated to damage seriously a large, highly respectable, and hitherto prosperous company, in which a third member of our board is a director—I mean the Australian Agricultural Company. It is a curious coincidence too (at least so I feel it) that the Australian and "Oriental" Coal Company within a very recent period was projected here with a capital of "300,000l." (to raise "450,000 tons of coal" a year), to acquire what is called the "New Lambton Colliery," and the "Miami Colliery," the pit of the latter being at the very same time drowned out and abandoned, and which, during the last six months it had previously been worked, had only produced, according to the Government return, 13,523 tons of coal! The Secretary of the proposed new company, in writing to the *Times* in reference to a correction of a statement in the prospectus by Mr. Russell, the Superintendent of Government Contracts, observes that "the anticipations referred to in the prospectus are founded upon a leading article in the *Newcastle Chronicle*, New South Wales, of June 17th." I must be allowed to express my regret that any two members of our board should lend their names in support of a project an important statement in connection with which has no better foundation than an article in a local newspaper in the colony. But, apart from that consideration, it appears to me that they are incurring considerable responsibility in the matter, and injuring the prestige of our company by appearing in connection with an undertaking some of the defects in the prospectus of which I will endeavour to make apparent in the following remarks:—The New



South Wales Collieries Company are to pay for 290 acres of land, 91,000, in cash and 50,000, in paid-up shares, together 141,000, or upwards of 481. per acre.

Now, I happen to know persons who are working the best seam of coal yet discovered in New South Wales, close to Newcastle, the best of which has cost them, acquired not long ago, direct from the Crown, 21. per acre. The prospectus makes a great deal of the fact that two seams of coal can be worked from the outcrop without sinking pits. But it appears that these are not the seams on which the company purpose to work, that, in fact, they drop out on land which the prospectus states is under contract of sale by the company to other parties. The seam which they do propose to work will, according to the plan accompanying the prospectus, have to be sunk to, and may be reached at a depth of 225 ft. In this respect, therefore, the proposed new undertaking has no advantage over the collieries working close to Newcastle. As regards shipping facilities, I see that at present there is nothing better than an anchorage, to a certain extent protected, and that the highest merit claimed for it is that of being "superior to any of the other exposed roadsteads on the coast." When certain expensive improvements have been made the prospectus shows that a tolerable good harbour will then have been formed, but still inferior to that of Newcastle. There is thus little attraction to shipowners to send large vessels to the Macquarie roadstead to load, in preference to the perfectly safe harbour of Newcastle and Sydney. The British Government are taking a moderate quantity of Australian coal, stated by Mr. Rowell, the Superintendent of Contracts, as likely to be as much as 18,000 tons in a year. This quantity, in the course of its journey back from the colony, has grown into 200,000 tons per annum, and is gravely so announced in the prospectus.

The price of coal is not, as stated in the prospectus, 14s. per ton "at the pit's mouth." That is the price of coal delivered free on board vessels in the harbour at Newcastle, and coal has not for many years been as high as that, and does not seem likely to remain so. There is at present no pressure of shipping at the harbour, and existing collieries can easily supply all the coal, and more, that there is shipping to take away. It is quite true that for a short time there was a very great pressure of shipping at that harbour, under exceptional circumstances. It was a thing that had never occurred before, and it passed away in two or three months. The quotations in the prospectus from colonial newspapers should have taken a wider range, and have been brought down to a later date. I read, for instance, in the *Melbourne Argus* of Dec. 31 last, that "Chartering operations this month were on the smallest scale for many years, and enquiries for tonnage at present are anything but brisk. Coal freights are offered from Shanghai, Singapore, San Francisco, Bombay, &c., but at rates which offer but little inducement to do business."

The calculations in the prospectus, therefore, being based upon both an exceptional price and an exceptional state of trade, are open to criticism and doubt as to their practical correctness as a guide to the profits to be derived on an average of years, which, of course, is the only safe basis of calculation for the launching of a new undertaking, in a field already very fully occupied by companies at work, and others that have lately been brought out in the colony. It is stated in the *Sydney Morning Herald* of Dec. 1, 1873, that three new "ones (collieries) in the northern district are expected to be in full work by the beginning of the year."

If, as the prospectus states, labour "is now easily obtained in the vicinity of these collieries," then they must be favoured in some peculiar way, for this is not the experience generally in the colony with regard to coal-mining labour. I have evidence before me that men are earning enormous wages—as much as 71s., 8s., and 9s. a fortnight—and are correspondingly indifferent and independent. Does this indicate abundant use of labour as available for a new undertaking? I commend the remarks to the consideration of our board, and particularly of the two members who have given their names to the proposed undertaking, and again thank you for putting me on my guard in reference to it.

A SHAREHOLDER IN THE PENINSULAR AND ORIENTAL COMPANY.

#### FLEXIBLE AND WROUGHT-IRON AIR-TUBING FOR MINING PURPOSES.

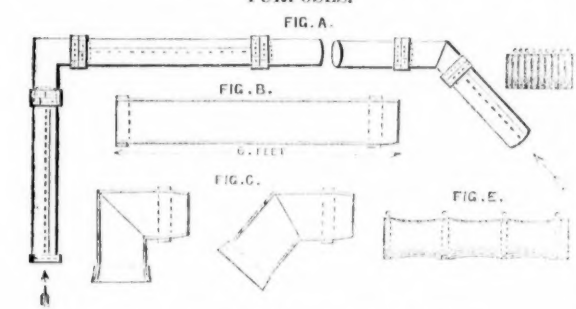


FIG. A.—Show the air pipes adapted to any variation in direction.  
FIG. B.—One piece larger scale.  
FIG. C.—Different angle bends.  
FIG. D.—Flexible air tubing collapsed for carriage underground, &c.  
FIG. E.—Flexible air tubing, with wrought iron hoops and hooks for fastening up to timber, &c.; for ordinary sizes the hooks are only on every alternate hoop.

Sir,—All mining engineers are aware how frequently brattice air is necessary in mining operations, such as connecting shafts sunk to the coal-seams; opening workings that have been temporarily closed, or after explosions when the ventilation has been destroyed. Long stone drifts have lately been driven by the aid of sheet-iron tubes fitted into each other spigot and faucet fashion. A great saving has thus been caused by doing away with the necessity of driving, in many cases, an expensive temporary drift as a return for the main drift, and to be abandoned when the desired point is reached, and the ventilation established.

The great difference in cost between driving an expensive air-way and using the tubing will be appreciated by mining engineers; and in the case of the drift it may not be required after the boring, while the tubes may be used over and over again. Good mining has often been done with a brattice-wall, but the drift or heading has in nearly all cases to be made larger than eventually required, making the cost of the wall much more than the tubes, besides being a much slower and more tedious operation. In many cases these tubes are invaluable, such as opening places much broken and fallen, in which it is impossible to erect any of the ordinary modes of brattice. Being made of stout sheet-iron, rivetted and with well-fitted joints, and having bends of all angles, we have a vastly improved air-way over the old forms of brattice, either of timber or cloth, which cannot be made thoroughly air-tight, being, therefore, for long distances quite useless, especially where strong currents of air are requisite to enable blasting-powder to be used. The writer saw in Belgium a long single drift being driven to some workings on the opposite side of a synclinal, or basin, in the coal measures. Iron tubes were led in of about 15 in. diameter, and air was propelled through them by a small engine driving a fan. The drift was driven by means of the Villerique perforator, which was worked by compressed air, advantage being taken of this power to work the small engine. Large quantities of gunpowder were daily consumed, and the immense amount of smoke generated thereby was efficiently cleared away by these means. I would also mention a very handy tubing made of brattice cloth, kept in a circular form by means of hoop-iron rings, to each ring is fastened a hook, so that the tubing is easily and rapidly hung up to the roof. Their portability is a great recommendation to miners, as they pack up like a concertina, hundreds of yards thus occupying a very small space.

Both of these air-tubes are destined to be largely used in collieries, and for the mines in Cornwall and other counties where the wooden box has so long been used they will certainly be a great boon. I am now manufacturing large quantities for the Indian Government, and also for Russia and the United States.

Neath, March 2.

G. J. MAY.

#### REFRACTORY ORE AMALGAMATED WITHOUT WASTING.

Sir,—Resuming the subject of the most unexceptionable means of obtaining the whole of the gold product yielded by Nature from matter presented to us from its various sources, perhaps you will kindly permit me to refer to experiments I have recently conducted. Canada appears to claim a right to enter into the field as a gold-yielding region, as would appear from the following narrative. A large sample of mispickel (arsenical pyrites) has been submitted to me for examination, and from the results I feel persuaded that this field demands the fullest investigation, and will fully repay any amount of skill, labour, and capital expended. The mispickel I find, by careful and judicious treatment with chemicals and mercury (without roasting or other preliminary treatment), by means of Rickard's patent amalgamator, yields the whole of its assay value in gold, and nearly 50 per cent. of its associated silver, at a cost of \$5, or 12, per ton, inclusive of crushing, amalgamation, chemicals and mercury, distillation of mercury, and smelting of the precious metals into bars. This simple and comparatively inexpensive treatment, it will be readily perceived, possesses the very great advantages of being less than one-fourth the cost of the calcining and deflagrating system in vogue prior to amalgamation, and less than one-sixth that of chlorination. The great risk attaching to the sanitary condition of the workmen is also obviated by dispensing entirely with roasting from the evolution of arsenical fumes consequent thereon, and which attack the manipulators despite the most refined precautionary measures of modern skill and science.

Should it, however, be desired to manufacture white arsenic or arsenical colours, for which the demand is very considerable, the tailings, or refuse, may be utilised after the gold has been thus thoroughly and cheaply removed; but a business of this character, being somewhat foreign to a gold mining and milling undertaking, it may probably be conducted to greater advantage by regular manufacturing chemists or colour-makers, who would purchase the tailings from the mining company, and manipulate in their own manner. The system of working I would suggest possesses also the very important advantage of speed in extracting the precious metals, inasmuch as Rickard's machines, one acting as an amalgamator and the other as a washer, or concentrator, of mercury and sulphide, would extract the gold and cleanse the mercury as fast as a 20-stamps mill could deliver the finely-powdered ore by net crushing. This *per se* is a great desideratum in treating so poisonous a material as arsenic or one of its compounds, by getting rid of the deadly dust given off in all dry-crushing operations. The cost of apparatus for amalgamation will prove much less than by any known system, in consequence of the speed with which it is effected, the machines working from 2000 to 3000 lbs. at each charge, being discharged once an hour, and, of course, working just six times the quantity of ore that can be done by bands, pans, or other mechanical arrangement, usually requiring six hours to effect amalgamation.

The data upon which I base these statements are from the following experiments and results obtained from specimens forwarded to me by Mr. James Lobb, of the Toronto Gold Mining Company. As an average of four assays, I detected in mispickel prior to amalgamation 9 ozs. 14 dwts. 18 grs. of gold per ton of 2240 lbs., and 3 ozs. 0 dwts. 8 grs. of silver in a like quantity. I would now most particularly claim attention to the circumstance that no means were employed to disturb the relations of the metals with the associated arsenic or sulphur, of the former of which I discovered 37.61, and of the latter 20.17 per cent. This may be safely regarded as an important era in the treatment of arsenical and sulphurous combinations, which have hitherto been considered exceedingly refractory, and demanding scrupulous and expensive treatment prior to the extraction of the noble metals. Submitting the tailings or waste matter after the removal of the gold by the agency of the machine to an assay, the result was most satisfactory, as the following will show. Of gold, I failed to discover a trace, whilst of silver there only remained 1 oz. 12 dwts. 15 grs. per ton, this being equivalent to 100 per cent. assay contents of gold and 50 per cent. of silver extracted and remaining in the mercury. It may be interesting to know that the process occupied exactly one hour. W. WHITE.

Laboratory and Assay Office, 25, Finsbury-place, E.C., March 4.

#### THE DIAMOND FUEL COMPANY.

Sir,—Please rectify in your report on the Diamond Fuel Company's "exhibit" at the Manchester Exhibition, published in last week's Journal, wherein it is stated that the binding liquid is evidently in a large measure composed of silicate of soda and lime, whereas our liquid cement is liquid fuel of a superior quality, made under Barker's improved patent—see Specification No. 1321, April 10, 1873.—Old Broad-street, March 4.

F. LAMBE PRICE, Secretary.

#### THE PRICE OF TIN—THE SMELTERS.

Sir,—The very low price of black tin at the present time must be severely felt by many mines in Cornwall, and is most disheartening to those who have spent both time and money in developing a mine. Is the present price the result of the laws of supply and demand? or is it caused by a monopoly? The latter, I think, is the cause, as we are in the hands of a few smelters, and it is they who regulate the price.

A remedy for this appears to be easily attainable. Let a few of the shareholders of some of the leading mines call a meeting with the view of obtaining the aid of the general body for the purpose of establishing smelting works of their own, to which each mine's produce can be sent for the purpose of being smelted. If this can be carried out I feel sure that a fair remunerative price could always be obtained for their produce, and we should have no more of the great influence upon the market price caused by the influx of Australian tin, &c. I have merely given an outline of my views, but hope some one may take the case in hand and try what can be done.

A SHAREHOLDER.

#### ON MINES IN ST. TEATH DISTRICT, NORTH OF CORNWALL.

Sir,—I would first notice Old Treburgett, as a silver-lead mine. It has of late become a fashion with many reporters to add the word "silver-lead" to all lead mines. All lead contains silver, but in the majority of cases it barely pays for extraction, and the word "silver" should be omitted generally. But I may fairly say that St. Teath is a real silver-lead district. Old Treburgett, Pengenna, Trewalder, Pitt, and Tregarlock, taken together, produce about the richest silver-lead ores in England. Then, I may be asked what are their prospects as to quantity and continuance? In answer, I say that Treburgett may be fairly called two mines—the old and the new. They were each dividend-paying mines from starting to about the 80 fm. level, when they were badly worked. The ore in sight was dug out, and very little ground opened. I think the shaft was sunk 10 fms. A 40 fm. level was driven back under the old mine, leaving about 40 fms. dry ground, but a pick was never thrown against the bottom of the old mine. After digging out all the ore in sight in the eastern mine, they opened a new mine in an eastern direction, where they found promising lodes, but not paying ones: they only sunk about 20 fms. from the surface. The old mine was abandoned about 30 years since. Recently it has been taken up by the present company, through the recommendation of a Professor, who found and assayed some stones which contained good silver. He and the then promoters contended that the sides of the mine were all but a mass of silver, and from these reports they succeeded in forming the present company, who persevered and, with a deal of trouble, got to the bottom, where they found the old and new mines left very poor even for lead ore, and all the Professor's silver sides had vanished. They found only about a 1/2 ton, and that fetched only about 141. or 151. per ton. The company had then to open out new ground, or abandon the mine. I sent their chairman my report, advising to drive under the (so called) old mine. They decided to do so, and to sink and open up new ground. They drove the 40 fm. level under the old mine only 5 or 6 fms. before they met with good ore. This they have followed west, and sunk their east engine-shaft for levels, and have driven them under the old mine. All the ore of the district dips north-east, and every level meets the ore nearer the engine-shaft, sunk on the eastern mine, and I believe they are sinking again for a deeper level. From these levels they are raising about 50 tons per month, for which they get over 301. per ton, and I should say their prospects at the bottom are good. They have still the eastern portion of the mine, from which two-thirds of the former lead was raised, untouched. I think them quite right in leaving this portion unworked for the present.

I will next notice the Pengenna old mine. This mine has an adit driven into the hill to a depth of about 30 fms. on Treburgett lode west. This lode was always supposed to be richer in silver than Treburgett, and thousands of tons of lead and silver ore have been sold from the back of the adit; and singular as it may appear, it is nevertheless true that the bottom of this adit has never been broken for more than 5 or 6 fms. in length, and sunk only 9 ft. deep. This certainly looks strange; then why was it not tried below the adit? will be the first question asked by all keen practical men, because every man that has gone through the adit has condemned its appearance, from the ground being hard. This adit was driven over 100 years since, at a time now known to all practicals that it was fashionable to drive all levels as small as possible in hard ground, and often so small that a man could barely get through them. Hard rock was formerly thought to be uncongenial to the growth of lead. Nearly every lead mine was abandoned at the sight of hard rock; this very ground has since proved the most productive for lead. I discovered, 50 years since, that hard capel rock is the life of lead in the St. Teath district. Treburgett lead has ever formed about the capels. Pentireglase lodes made thousands of tons of lead about the capel portions of its lodes, and I believe the very rock that has ever condemned Pengenna in depth is the very life of lead. Let

any party put down its shaft 20 fms. under the a lit, and drive 40 fms. each way, when I firmly believe good silver-lead will be found. It is a first-class speculation. The water is easy, and does no moderate.

I next notice Trewalder Mine. Here a north and south lode was found 70 years since. George IV., then Prince of Wales, ventured in this mine. Lead was found at the surface, and a mine was found by the road-side. A shipload of lead was sent to the market. The party who worked it never could obtain a grant on the north side of the road. All the lead in this district dips north-east. The ore was soon out of their grant. They had a water-wheel, and sunk some fathoms deep. Since then the party has put up a steam-engine still further south. Their shaft was all south of the shoot of lead. They were mining in poor ground, and did not raise sufficient lead to pay. Ore was found at the surface two fields further south, but nothing has been done on it. This is likely to be a second shoot of lead, but they have never sunk to prove it. The ore in this lode appears to be in the north and the south ground. These places are good speculations, as they are in new ground. This lode is crossed, going south, by many east and west lodes. It is to these crossings the future workers have to look for good silver-lead.

I next notice the Pit Mine. This is on one of the Old Treburgett lodes. It is near Knight's Mill Bridge, on the road to Camelford from St. Teath. (See plan.) Here one of the Treburgett lodes has crossed Trewalder lode. The crossing is a little east and south of the bridge. This meeting of the Treburgett lode is nearly at right angles. (See plan.) Notice, Trewalder lode has shifted Treburgett lode, and even the great elvan course, which is known to run on for miles. The shift is about 60 fathoms. These crossings are bound to shift lodes, and great shifts are all but certain to produce ore. Then, I ask who ever knew two ore-bearing lodes to cross each other, and to shift each other, for such a distance without producing ore? It is at those places that all ore-bearing lodes are productive. Great Van is now producing its masses of ore at such an intersection. I have a deal more to say on these two lodes: 56 years since men fixing a gate-post half a mile east found lead. They obtained a grant, commenced an adit, and drove it east to get under the gate-post. A water course was brought home, and timber was brought to build a wheel. It was on Duchy land, and the workers claimed a right to turn the water where they liked, under the then Stannary law, for mining purposes, without paying any compensation. The water was brought home, but on a dark night the farmers rose and filled in the course, as they could get no compensation. I think they did rightly, too. This so frightened the adventurers that they neglected to pay the men, when they took the timber, and paid themselves. The adit has been since driven by a second party. Ore was found throughout all the driving, but not in quantities sufficient to pay. But these men, like too many mining men of the present day, did not believe it possible to see through a millstone; but they ought to have seen and known that Trewalder lode must cross the very lode they were working on, about 100 fms. west of their adit, but they paid no attention to this. Their hobby was to get the adit east under the gate-post. They even pitched it 100 fms. east of the crossing, where they found more lead than I anticipated in a single lode. All they did was driving away from the great intersection. Their adit should have been taken from the river and west of the shift, not at a point 150 fms. east of this great shift. I expect these never knew the shift was there. Had they known it, it is likely they would have opened on it. I believe this shift was not known to them, but they should have known the two lodes must cross each other about that point. I discovered this shift about 12 months since by passing through a cross-country road, which placed this mine quite in a new position than it was ever known to be in before. It is all in Duchy land, and only one grant is required. This mine is all but a sure speculation, and can be very cheaply worked.

I next notice Tregarlock Mine. It contains lodes of promise. I have known it nearly 60 years, but I never knew it in the hands of men who could open a mine in the right direction. One set I compare to the dormice, that sleep all the winter. In summer they only dig holes to shelter in. The second set was but little better. They only drive dry levels, that might be fairly said to have neither water, back, or bottom. They have not above 3 fms. over them, and the lode in the bottom comes out to the sea-beach, where they have no grant. At times they hole through. This class are like the bats, only to be seen on bright summer evenings. They are only to be seen on the mine about two or three months in the height of the summer. I remember one party sinking a shaft on the edge of the cliff to on or about 20 or 30 fms. below the sea, when they discovered they had no grant there, and they hauled up their pumps at night. Then a fresh party drove a deep adit east—the only more I ever saw there in the right direction. More recently another party drove this adit a few fathoms, when they said they were compelled to abandon it, from the great influx of water. Then, I may ask who ever heard of men being driven out of an adit by water? The people of the district say they must surely have hauled to the sea; but that is impossible, if they had driven the adit in the right direction. I hope this is not true. I think they cannot possibly have lost their reckoning, and turned round. Seven years ago I saw a stamps, or crusher axle, on the mine. They said they were going to clean ore. I then gave them an offer for some lead to make two weights for an eight-day clock. I am informed that the present party is about to clean up the ore in stock, when I hope to get my two weights. I have to request them not to throw too much lead on the market at once, fearing that it may cause a drop in the price.

I may next notice King Arthur's Castle Mine. It is a place well worthy of trial. They have raised some good silver-lead, but to my view they have worked in the wrong direction. The ground is the right sort for bearing lead, and there are fair intersections.

I next notice Reddiford Mill Mine. It has had a steam-engine upon it, and has produced lead, but I cannot see intersections sufficient on the lodes to recommend them. I never saw any sign of a great chemical action having taken place on them. I pass this. Then there is a mine about 5 miles south-west of Treburgett, near the Wadebridge turnpike road. They had a steam-engine on it, and raised some good lead rich for silver. I never surveyed it, and I do not recollect its name. They never raised sufficient to pay expenses. I am informed the lode is small. I next notice a little adit driven in at a place called Barn, about 3 1/2 miles south-west of Treburgett. I was informed, a few days since, in the City that someone had brought some good stones of lead to London from this place. In that case the former workers must have thrown away what they raised, as I never knew or heard of a stone of lead being found there. I think it must be a mistake, and that it came from Pengenna, Treburgett, or some other mine near there. I am going there shortly, and shall make further enquiry.

I may, as I am now about it, notice old Pentireglase district. It is 5 or 6 miles north-west of Treburgett, and adjoins the sea. It is one Tregarlock lode going west. It has been worked by at least four parties, and each raised large quantities of lead; some of them, I believe, paid dividends. The lode is large and hard, and many thousands of tons of lead has been raised from the mine; it has stopped in hard ground but not deep. It will be worked again some day. Then there are some six or eight mines that have produced good lead in this district, but neither have had an effective trial. Most likely they stopped when they found hard ground.

I next notice Simon Ward district. It is a belt of ground situated at the junction of granite and killas, or clay-slate. This is commonly called a copper district; it abounds with sulphur and low-priced copper. A London company sunk a mine in it over 100 fms. deep. They raised thousands of tons of contaminated sulphur and copper. They only opened the mine for about 70 fathoms in length. The ground was extraordinarily hard, and the lode large; the water would show copper on a bright shovel in a few hours. They never threw out levels east or west; had they done so they would have discovered soft granite within 20 fathoms east. They said they raised excellent stones of copper in the soft granite the last week they worked. Had they thrown out levels earlier, and found this soft ground, they would have stood a chance of making good discoveries, as good-paying copper is seldom found in hard granite. I am not aware if they have any intersections, if so, they have not reported on them. Still I am inclined to think they have one that



Sigs.—I observe in your Journal of Feb. 28 that the dividends declared at the meeting of the Old Treburgett Mine is 9d. on the original shares and 1s. 9d. on the preference. This must be an error. If the directors had for one moment weighed the meaning of the language employed in the article creating the preferred stock they would have seen at a glance that the words "dividend" and "dividend per share" were a mistake which they will have to make good if they persist in paying the sum of 1s. 9d. per share. The 10s. shares, which are only 10s. should only receive 4s. 6d. per share when the original shares which are of the value of 20s. get 9d. each. The Article of Association is as follows:—"That the present capital of this company be increased by the creation and issue of 9258 new shares of 10s. each, leaving a preferential dividend of 10 per cent. per annum on the amount paid upon such new shares in priority over the original shares, and after the payment of such dividend the new shares to be equally with such original shares in the profits of the company." The dividend of 9d. is not participating equally but is double. I have little doubt the directors



intended that the "shares" only should participate equally, but, unfortunately for the preference holders they forgot to state so.

#### WEST DOLCOATH.

Sir,—Circumstances over which I had no control prevented my writing a line in reply to "Tru O," whose letter appeared in the Journal about three weeks ago. The enquiry he refers to was not mine. I never had a share in a Camborne mine, and had no interest in the enquiry. He advises me to abstain from reporting any further "Miners' Conversations," which he speaks lightly of. A man of his calibre, who cannot write a line fit for print without assistance, ought to be the last person to speak in the way he has done. He calls himself a mining and railway engineer, of which professions he is as ignorant as of the Chinese language. AGENT.

St. Just, March 4.

#### WEST CARADON MINE.

Sir,—Allow me to ask, through the Journal, why no cross cuts are being put out in this mine? We were told that on reaching Hallett's cross course this would be done. Why are they not opening out on the lode east of Hallett's cross-course? Are they afraid of water or of old workings? At present they seem to be only driving two levels, which hold out no hopes of any discovery. SHAREHOLDER.

[For remainder of Original Correspondence, see to-day's Journal.]

### Meetings of Public Companies.

#### HAWNE COLLIERIES COMPANY.

The statutory general meeting of shareholders was held on Friday, February 27, at the Guildhall Tavern.

Mr. NICHOLSON in the chair.

Mr. W. C. JACKSON (the secretary) having read the notice convening the meeting.

The CHAIRMAN said that, the meeting being purely a formal one, no lengthy speech would be expected from him; but he would take this opportunity of explaining to the shareholders the position of the company, and the nature of its property. All the directors had visited the property—he and several others on repeated occasions—and they would recommend that all shareholders should themselves pay a visit to the estate, and see it and the works now proceeding, for their own information and satisfaction. By aid of a plan he pointed out the old pits that had been used and were now being cleared out, so as to work the Thick coal underlying 70 acres of the property, and stated that as soon as this was done they should reach the ribs and pillars, which would equal in quantity the amount of coal already worked out. The remaining 90 acres would then be worked by sinking two new shafts to the untouched Thick coal. The property was freehold, no royalty was payable, and so good a purchase had the company effected that if 1s. per ton royalty were placed to the reserve fund the purchase money of the property would be recouped by the saving effected from this source alone.

After some remarks from shareholders the two directors (Mr. Davis and Mr. Jarvis), who retired according to the Articles of Association, were unanimously re-elected.

A vote of thanks to the Chairman was passed, and the proceedings then terminated.

#### MARBELLA IRON ORE COMPANY.

The result of the general meeting of shareholders, held at the Cannon-street Hotel, on Tuesday, has been to unseat the Chairman (Mr. George Anderson, M.P.), by means of the proxies held by the Glasgow party, and thus, according to the statement of one or two independent shareholders, abandon the management to a clique, and sacrifice the best interests of the company. Less than twenty persons, exclusive of the directors, were present, and of these nearly one-half belonged to the Glasgow party, yet more than two hours were occupied by the meeting, owing to the efforts of the minority (counting the proxies) to induce the Glasgow party at least to refrain from using the proxies entrusted to them until the whole body of shareholders should have had an opportunity of seeing a report of the proceedings of the meeting, as it was alleged that many of the proxies had been obtained through misapprehension on the part of those giving them as to the purpose for which they would be used, and ignorance of facts which were brought forward at the meeting. The Chairman, however, ruled that the proxies, being in order, could be used as the holders pleased, and suggested that the best course for the shareholders not belonging to the Glasgow party to pursue was to remain silent, as, although they had the majority on the show of hands, they were bound to be defeated upon every question by the proxies.

The balance-sheet and directors' report having been taken as read, the Chairman proceeded to comment upon the several paragraphs of the report and explain the items of the balance-sheet, and in doing so observed that the mining engineer at the outset of the company led them to believe that it was an open quarry they had to work, and acting upon this they made contracts for the delivery of large quantities of ore. In this they were backed up by the shareholders, for at the statutory meeting of the company the directors were pressed to go on making contracts, and he (the Chairman) replied that he thought they had done as much as they could until they saw more of the output. They ultimately found that they had too many contracts, seeing that they had to mine for the ore. The directors, therefore, used every effort to increase their output and decrease their contracts, and the latter have been reduced 60,000 tons, without paying forfeit. The position of the market was now so changed that it is undesirable to reduce them further. Mr. Bowick had reported that he thought they might raise 150 tons per week, but he, too, was mistaken; this was chiefly through the hardness of the ground. Their principal or railway adit could only be driven at the rate of a metre per week. Some adits had reached the ore, but there could be no great increase in the output until the railway adit is driven. Mr. Inwards anticipates getting in a short time 500 tons per week from the underground part of the workings, apart from the quarry workings, which are going on as before. They had rejected the Diamond, Burleigh, and other drills, either on the score of enormous expense or complicated character, but had now met with a drill—the Darlington drill—which was cheap, simple, and apparently efficient. It would do 10 in. in hard granite in a minute and a quarter, and had got through 1½ in. per minute in the Marbella rock, which would be a great improvement on what they were now doing. They had ordered this invention, but as the machines had to be manufactured it would be three months before they could be in operation.

In place of three who had retired since the previous meeting Mr. Spence and Dr. Trewella had been appointed directors. The feeling of the board was that they had too many directors, and that two or three on the spot would better attend to the business of the company than a large number, many of whom resided far from London, and, therefore, could not attend the meetings of the board. Mr. Dunlop, one of the Scotch directors, appeared to have attended 6 out of the 34 board meetings, and Mr. Clavering said he had attended 12 meetings. Referring to the paragraph of the report as to the re-election of the directors, it was stated that Mr. Dunlop did not seek re-election, and as it was evident from the way the proxies had been given that the shareholders desired a change he would prevent any difficulty by declining to offer himself for re-election. He would say in leaving the board that it was a mistake to expect directors to work for nothing, and that it was not the practice of men of business in conducting their private affairs to tell their managers that because they had had a bad year they must work for nothing, and in the case of directors he could tell them from experience that work done for nothing was precisely worth that amount. He had attended almost daily at the office whilst he had been a director, and could do no more than he had done for the company. In connection with the balance-sheet, he explained that the item travelling expenses should have been chiefly charged to wages account, since it mostly represented the amounts paid for sending out workmen and their families to Marbella, and he was requested to state that hitherto the Scotch directors had received nothing for travelling expenses.

After a few unimportant enquiries the report was put to the meeting and carried unanimously, including the recommendation that a dividend of 5s. 7d. per share be paid; and upon the proposition of Mr. Graham, seconded by Mr. Park, the two vacancies in the board were filled up by the election of Messrs. Scott and Downey. Previous to these motions being put to the meeting, Mr. Wilnot urged that, in deference to the absent shareholders, the Glasgow party

should permit the statements made at the meeting to go before the shareholders before giving a vote which would deprive them of such valuable services as those of their chairman, but his appeal and those of other shareholders who took the same view were not replied to, except by the simple demand from Mr. Graham that his motions should be put. Upon the motion for the appointment of auditors, it was stated that Messrs. Turquand and Young had charged about 1000. for clerks' labour, in addition to the 20 guineas fee, which appeared to be the usual practice of companies' auditors, and they were re-appointed at 20 guineas remuneration, to include every charge connected with the audit. Before the meeting separated the Chairman, who was at the conclusion of the business given a very cordial vote of thanks for his invaluable services, stated that they had just received a telegram from Mr. Inwards, stating that the output last week was 1150 tons, the largest yet, and indicating that it was likely to continue. The solicitor explained, in answer to an enquiry, that the only means of re-electing the Chairman was by the requisite number of shareholders sending in a requisition for a special meeting for that purpose.

#### NEW QUEBRADA COMPANY.

An ordinary general meeting of shareholders was held, on Tuesday, at the City Terminus Hotel, Cannon-street.

Col. ALEXANDER STRANGE in the chair.

Mr. T. G. GILLESPIE (the secretary) read the notice convening the meeting: the report of the directors was taken as read.

The CHAIRMAN then said: Gentlemen, I now propose to move the adoption of the report, and in doing so I will make a few observations on some of the topics touched upon in it, but they will be very few indeed. With regard to the accounts, I need add little or nothing, except to state that on this occasion more than usual pains had been bestowed upon them on account of the new secretary, who very properly expected before taking office that the accounts should be put in a thoroughly satisfactory condition, and he is himself a thorough man of business, and he is satisfied that they have been put in that condition. I need say very little indeed about the negotiations which were brought to a completion since our last meeting between the Bolivar Railway Company and this company, because at our last meeting the principles on which those negotiations proceeded were all discussed, and I think generally approved of. They were carried out I think as nearly as possible in the way which we then announced to you. Of course, if any shareholder wishes for information regarding those negotiations we shall be prepared to afford it. The next point upon which I may say a few words is that of the mines in which you are all so deeply interested. The statements made in the regular report are of a very brief character, as we felt at the time; but we had not then more information to give. Since that report was issued further information has been received from the mines, and we at once placed it in the hands of our consulting engineer, Mr. David Forbes, who was requested by the board to draw up a professional opinion upon this report, and that report has been circulated among the shareholders, and for its contents Mr. Forbes is professionally responsible. Then comes the paragraph about certain concessions granted to this company by the Venezuelan Government. They have caused us a great deal of trouble. We felt bound to apply for them, because they involved certain privileges, the advantages of which would be reaped by the Bolivar Company, and, although I do not think, strictly speaking, we were bound to enter upon any expenditure in order to get those privileges for the Bolivar Company, we still felt that there was a moral obligation on us to do all we could to obtain them; and we were further justified in that view by the fact that not only did the privileges stand in need of renewal—I mean the privilege of importing stores and railway materials into the country duty free—but also the need of renewal, but the privilege of exporting our own ore also needed to be put on a satisfactory footing, and we thought (putting the other privileges entirely on one side) that such enormous importance to the company that it justified our taking a great deal of trouble, and also justified our going to some expenses. (Hear, hear.) The question is not yet settled whether the Bolivar Company should or should not join with us in that expense—that is still an open question. The Secretary reminds me that the period was extended—we got an extended period by this renewal; but I may say that without doubt the privilege of exporting our ores duty free was well worth the whole of the money that would be paid for these concessions. I now come to the paragraph about the railway works, and to that I have to make some little addition. Since this report was issued, Mr. Barnett, one of the contractors who contracted for the construction of the railway with the Bolivar Company, went out to Venezuela, and made an inspection of the whole of the line, and examined the state of the works. He returned since the issue of this report, and he gave the Bolivar Company—I am afraid I am rather travelling out of the business of this company, but still it is a matter so interesting to you that I think you will forgive me—the benefit of his experience and inspection of railway works out there, and his report quite coincided with what we state here that there were no engineering difficulties of any kind, and, considering the excessive wet season the works were then progressing favourably, and he even went so far as to say that, in his opinion, the railway would be completed to Palma Sola in July. That, I feel bound to say, having given a great deal of attention to the subject, and I state it as my own personal opinion, is a rather sanguine estimate. I do not think the line will be completed in July. I think if they reach Palma Sola in September that it will be a very great work to be accomplished.

A SHAREHOLDER: Has he mentioned what the length of the section referred to in this paragraph is? The section that he expects will be ready this month.

The CHAIRMAN: That is about six or seven miles. No doubt many shareholders will become acquainted through the ordinary channels of information with the circumstances that have taken place with regard to this firm of contractors. That is to say, you are doubtless aware that there has been a dissolution of partnership between the Messrs. Barnett and Gale, the contractors. That is a circumstance to be regretted in some sense. The arrangement is still the subject of negotiations. That is to say, the arrangement on the part of the contractors. Of course they are liable to the Bolivar Company for the construction of the railway still, but certain arrangements pending between those gentlemen are not yet completed. They will probably result in Mr. Barnett taking part in the construction of the works, and it is also suggested, I do not know whether it will be carried out—it is suggested that Mr. Gale, who has had great experience of the construction of works in India, should go out to Venezuela to attend to matters. I need say nothing about the next paragraph, which relates to the proceeds of the shares which are to be issued, as you are informed, to certain parties at a certain fixed price. They have been issued and paid for in cash, and that cash has supplied us with the means of carrying on the company. I come now to two paragraphs relating to myself, in which I am personally named. I shall say nothing to you as to my personal connection with that subject, but this, that since the report has been issued, it has been judged expedient to take the opinion of our legal adviser, Mr. Eyre, the solicitor of the company, regarding the last part of the second paragraph on page 3 of the report, wherein these words occur, "but the directors have strongly recommended Col. Strange to make a like offer to the Bolivar Railway Company, whose powers would probably admit of its acceptance." It has been imagined by the directors of the company that this insertion in the report was a little overhasty, and we have, therefore, taken Mr. Eyre's opinion on the subject; it is a little complicated, but I will endeavour to make it as simple as I can. This company is under an obligation under its contract to purchase back all the undertakings of the Bolivar Railway Company—that is to say, if it buys any of the works of the Bolivar Company back it must buy them all. That is the actual obligation, but there is a proviso that the Bolivar Company should not undertake any works additional to the railway proper without the consent of the Quebrada Company. Well, now, it may or it may not be the desire of this company to take back other works additional to the railway works. That is a question quite apart from the one I am going to speak to you about; but you have been told in the preceding paragraph to this that the company had no power to take from me this concession. Now, the question is, whether if the company cannot take them from me, they can legally take them from the Bolivar Company. Our solicitor tells us that they cannot, and he is of opinion that if you adopt these words in the report, you will be committing the company—whether morally or legally I think it is hardly yet settled—you will be committing the company to a certain extent, if not absolutely, to the repurchase of the works that you had no legal right to repurchase. A SHAREHOLDER: Does that refer to the steamers that are mentioned here? The CHAIRMAN: Yes. Therefore, in moving the adoption of this report, I shall, with the consent of the board, propose that the report be adopted, omitting those words.

A SHAREHOLDER: Is there any restriction imposed on the Quebrada Company conveying their ores to England? The CHAIRMAN: Yes, certainly Sir—but that, I think, is a separate question. As I was saying, I am, therefore, authorised by my colleagues to suggest that in moving this report these words be omitted. We propose, therefore, to amend the report by the omission of these words—"but the directors have strongly recommended Col. Strange to make a like offer to the Bolivar Railway Company, whose powers would probably admit of its acceptance." I need say nothing about the other paragraphs of the report.

A SHAREHOLDER: Before you leave that subject, Col. Strange, may I ask you this: is it a fact that you offer those two concessions to our company for nothing?

The CHAIRMAN: I did.—The SHAREHOLDER: And is it a fact that this company recommended that you should make a similar offer of the concessions to another company also for nothing? The CHAIRMAN: No Sir. The next paragraph I think I need say nothing on. There will be regular resolutions moved for the re-election of directors, and for the confirmation of other directors. I think I have now gone through all the points in the report that seem to me to require information further than that afforded by the report; and, in conclusion, I may repeat that of course we are here especially for the purpose of giving you information. I beg, therefore, now formally to move the adoption of the report and accounts, with the omission of the words I have read to you.

Mr. N. LEAROLD: I beg to second the adoption of the report.

Mr. HEMMING (Consul of the Government of Venezuela): Gentlemen, I propose to detain you as short a time as possible, and I am happy that the Chairman has so far opened the door to make some corrections in this report before we pass it; but there are one or two other subjects to which I think it is very important that you should give your opinion, and upon which you should even come to some resolution before you adopt the report and accounts. You did put the two, did you not?—The CHAIRMAN: Yes, Sir.

Mr. HEMMING: With regard to the accounts it will be useless to take up the time of the meeting in going into them. We have now for the first time presented to us accounts up to Dec. 1872, which ought to have been delivered to us in April

last; and we have now the accounts up to June, 1873, which ought to have been delivered to us in October last, but as we had no opportunity upon those two occasions, both those statements of accounts came before us to-day, but without any possible to go into such accounts; nor do I intend to dispute them. There are a great number of things in them which I wish had never found their way there; but I am not going to raise any evil upon them, because I think our time may be much more usefully employed in considering impartially and impersonally few subjects to which I think it necessary to call your attention. Prior to doing that I would remind you that our Articles of Association require that the directors should give you their report and statement of accounts 14 clear days before the meeting. That they have done. But the Articles of Association also state that at the general half-yearly meetings any shareholders may bring for adoption any motion that he pleases, only he must give seven days notice to the directors of his intention to do so. I think it only right to tell you that for some weeks past several shareholders have called upon me and expressed what was a pleasing intimation to me that it was generally understood that the objection which had previously been made to my joining the board would now be removed. I, therefore, at the proper time sent in the requisite notice to the directors, stating that it was my intention upon this occasion to offer myself as a candidate for the seat vacated by Mr. Weech, and I shall be entirely in the hands of the shareholders in that respect, and also with the consent of the directors, as to what may be the result of it. I have been flattered so far with the expression of the belief that I should be of very great service to the company. I think few will doubt that if they could only get rid of what has hitherto been a simple block to it, a matter of personal feeling, it has long since died away on my part, and I have reason to believe and hope that it has diminished in the other direction. I would now refer to the last paragraph in the directors' report, which has reference to proxies. I was in hopes that they would not have been sent out by the directors. I have not sent out any myself, nor did I intend to do it, but a large number of shareholders have kindly volunteered their support, having understood that it was my intention to offer myself as a director upon the present occasion. Several of them have sent me their proxies for that purpose, but the difficulty of their being used is that several things occur after the proxies are sent, which might materially alter the intention of those who give them. I do not know how far that may be the case with regard to those who give me theirs, and therefore, although I hope there will be no necessity for a reference to proxies, I should not think of using them (those given to me) except for that specific purpose, if it should be necessary. I am more anxious that they should not be used because it is necessary to state at once that all the proxies signed in the state that they were sent out by the directors are everyone of them illegal. Therefore, as they cannot act upon them, I do not think it is taking an illiberal part by saying that I hope no necessity will arise for appealing to proxies, in the event of which I might be compelled to use the same, in which occasion they (the directors) would not be able to use any, and I should have no objection to those proxies did not know of my intention to offer myself I think it is left entirely to the shareholders who are present to adopt what course they think necessary under these circumstances. With regard to the concession alluded to, there is one, I am sure, unintentional misstatement made by the directors to the effect that the concession was accompanied by the condition that this company should at once undertake the construction of the railway. Now, gentlemen, as I am in possession (they are here) of these concessions, I am bound to state there is no condition of that sort in them.

Mr. LEAROLD: You understand the report. It is that Col. Strange offered us the concession on condition that the company should undertake the construction of the railway.

Mr. HEMMING: I am not surprised that I should misunderstand the report, because it is the least intelligible report I have ever read in my life. (Laughter.)

Mr. LEAROLD: It is very plain indeed.

Mr. HEMMING: It may be to comprehensions superior to mine, but in my humble opinion it is not so. I am exceedingly glad that the directors of this company came to the decision of declining the concession, because although it would be very useful to the Quebrada Company if carried out, I think the Quebrada Company have quite enough to do without that. (Hear, hear.) They have the finest property in the world; it only wants to be properly developed, and the less we have to do with other things the better. I was, therefore, exceedingly glad to see it rejected. If I had been on the board, I should have joined in expressing a wish to Col. Strange, because I must address him now not as the Chairman, but in his particular person as Col. Strange, as it was in that character that he got this concession. I say I should also have recommended him to have offered it to the Bolivar Company upon whatever terms he could have got. It would be far more valuable to the Bolivar Company than to us, but it will be to a certain extent advantageous to us, and, therefore, I should have been exceedingly glad to hear that Col. Strange had decided upon adopting that course. We then come to the question of directors, and I am sure everyone will feel the same regret that I do that Mr. Weech is no longer a member of our board. (Hear, hear.) He was a gentleman that I had the greatest pleasure in introducing, of being the cause of his getting on the board, because he was a remarkably shrewd, intelligent man; he said just in the little was always to the purpose, and as he held a very large stake in the company, he used all his influence to bring the thing to a successful result. (Hear, hear.) I, therefore, greatly regret his absence, and the more so as it lessens the independent element on the board, which comes to be a very serious question. (Hear, hear.) The directors state in that same paragraph, and I may be told presently that it is very clear and I ought to understand it, but in the way I do understand it I think it is open to grave objection. It says, "It having been considered desirable in the interests of both companies that the board of either (I suppose they mean each, because "either" is neither grammar nor sense.) I should include two members of the other. Mr. James Anderson and Mr. Walter Armstrong, members of the Bolivar Railway board were elected directors of this company, and our Chairman and deputy-chairman—Lieut. Colonel Strange and Mr. N. Learold—have taken seats at the board of the Bolivar Railway Company." Now, I would ask, first, by whom it was considered desirable in the interests of our company that that should be, because the shareholders have never been asked their opinion to this day? It was quite in the power of the directors to elect those gentlemen subject to the approval of the next general meeting after that time. It, therefore, makes it still more to be regretted that our meetings have not taken place regularly in April and October, because then the question would sooner have come before the shareholders. But the way in which it is put here, by putting Mr. Anderson and Mr. Armstrong first, you would suppose that they had come upon the board before our two directors had been put upon theirs. But, gentlemen, in the Bolivar prospectus, which I have here, Colonel Strange and Mr. Learold were both directors of the Bolivar Company before it was ever even known that the Bolivar Company would have been floated; and, therefore, this statement certainly does create a different impression to that which is actually the case, for from this it would appear to be as if Mr. Anderson and Mr. Armstrong were taken on the board here that, therefore, Colonel Strange and Mr. Learold were placed on the other. But now, gentlemen, according to that arrangement, we have six directors, and only two dependent ones upon the board. There are circumstances to which I think it better not further to allude to, which I believe strongly justify me in stating that we have recently escaped from a serious collision thereby, showing that the Quebrada shareholders proper ought not to be under the preponderating influence of the joint board. At the present moment we have only six directors, and I think you will agree with me that it is absurd that two-thirds of that board may have an antagonistic interest to ours, while we have only two directors, or one-third of the board who are independent members. It is the same thing in the Bolivar company, but that is their business, and not ours, and I need not say more in a letter which I wrote to the directors I stated that every person who had spoken to me had complained of the preponderating influence of the joint members, and the wish that the independent element, reduced by the retirement of Mr. Weech, should be filled up by myself. (Hear, hear.) In making these observations I should state that some very strong opinions have been expressed as to the preponderating influence of the joint members, and of doing away with the Bolivar element altogether upon our board; in that, however, I do not intend to take part. I think, now that we have an opportunity afforded of accomplishing it, it is very desirable that we should confine that joint occupation of seats to two members; not two members from each company upon the other board, making four, and giving the preponderating influence of two to one or one third, but that there should be two gentlemen who should be directors upon the two companies, thus having four independent members upon our board, and four independent members upon the Bolivar board, if they so desire and wish. That will be a question purely for your decision, and other persons will probably choose to express their opinion upon that subject, and whatever the decision, I shall bow to it, but I think you ought to be extremely cautious. I see some few old faces among the gentlemen present that I have seen from the first, and it is very hard, after hanging on to this thing for so many years as some of us have done, to say I think it would be very hard to find that we were swamped by a more powerful introduction into our company. The Bolivar Company has made a most excellent bargain if they would only be content with it; we have got the finest prospects in the world if we will only work them. (Hear, hear.) When the Bolivar Company was established, I was originally asked by the promoters to go on the board. I consented to the offer; afterwards it was their wish that Colonel Strange, having been out in the country, and possessed of much valuable knowledge on the subject, should join the direction—in fact, his presence on the board was a *sine qua non*—and, owing to the existence of unpleasant feeling between us, to which I will not allude, I did not trust myself or my services upon them. I was asked, however, to assist in my power to be an auditor, and I replied that I gave them every assistance in my power to carry out the thing. I say, in the presence of some of the directors, that I shall be exceedingly glad to give them whatever assistance is in my power. I have no other object than to assist both the companies; but I think I have pointed out to you as concisely as I can, and I hope with no exaggerated view of the case—I think I have pointed out to you what ought to be our course on this occasion—that is, to limit the number of directors who have a joint interest on both boards to two, and that we should have four independent directors upon our board. If you think it right to elect me as one of them, and always presuming that I shall not be any longer objected to on the board, it will be my endeavour to serve you to the best of my ability, feeling, at the same time, and am far more serving myself, holding the interest I do in the company, while the remuneration is, of course, altogether inadequate to the trouble involved in carrying out the views and interests of the Quebrada Company. (Hear, hear.)

Mr. STOCKDALE: I should like to ask if there is any likelihood of difficulties occurring with regard to the exportation of ore when the means of doing so are available? I think the exportation of ore should be one of the first considerations of this company should pay attention to. I should, therefore, like to know if you apprehend any difficulties in exporting the ore?

The CHAIRMAN: Before our concession was renewed it was questionable whether or not it (the ore) should be exempted from export duties. And one of the great objects of getting this concession for you was to obtain the exemption of import duties for the ore, and that has been obtained.

Mr. BOWTER said: Mr. Hemming had referred to the Bolivar element on the board of this company, and had expressed the wish that that influence should be mitigated. He (the speaker) was one of those who thought that it would be to the interest of their company that it should be done away with altogether. It was impossible to serve two masters. Gentlemen from the Bolivar board would come prejudiced in favour of that company. Another thing was the gentlemen who were on their board, who were purely Quebrada directors, would look upon those joint directors with a certain amount of suspicion. "Which interest have you at heart?" they would ask in their own minds; "does this gentleman sit on the Quebrada board purely in the interests of the Quebrada Company, or does he allow his opinions to be influenced by Bolivar considerations?" "Will he pledge himself to undertake to support every measure which will be to the advantage of the Quebrada Company?" Such would naturally be the questions that would suggest themselves to the minds of the independent members. Now, it appeared to him that there would arise many delicate questions which would have to be decided, and the decision of which would be to the advantage of the Bolivar Company, or to the advantage of the Quebrada Company. That was to say, the interests of the two companies had not, and would never be identical; on the contrary, they were



The adoption of the report, the following—“reserving all questions as to the constitution of the board and officers.”—Mr. TYLER seconded the proposition. The first resolution, with this addition, was then put and carried unanimously. Mr. HEMMING then moved the re-election of Mr. Oakes as a director.—The CHAIRMAN seconded the motion, which was put and carried.



Mr. YORK said that any shareholder who visited the mine would once see that the money had not been ill spent. A large amount of work had



been done, and a great deal of machinery erected, but their dressing floors were now equal to their requirements; besides which they required additional pits, and it was proposed to considerably increase the dressing floors.

Mr. GREENE said that at the last meeting he asked a question about the income of the company, and was much disappointed it was not done at that time. He thought when the amount now proposed had been raised the operations would be presented with the utmost vigour. He was perfectly willing to take up his quota of the new capital.

Mr. YORK said the want of capital had been the reason they had been unable to carry on the operations with vigour.

A SHAREHOLDER asked the amount of the mineral sold since the company took possession of the mine?

Mr. MURKIN said that lead had been sold to the value of 3998*l.*, and blende 1057*l.*; together, 5055*l.* The blende was the best raised in any mine, and had realised as much as 7*l.* per ton. The resolution was put and carried unanimously.

The CHAIRMAN, in moving the next resolution, said that one share for three at present would not be a heavy tax, and he hoped and believed every shareholder would take his proportion. He was very desirous they should, because he believed it to be a very good investment, and that as soon as it was known upon the market that a very good share had been taken up the price would rapidly advance to par, if not a premium. He then proposed the following resolution:—

1.—That the said 4000 shares, of 3*l.* each, be issued at 1*l.* discount, and be offered to the shareholders in the proportion of one share for every three shares held by them on the date on which this resolution shall be confirmed.

Mr. GREENE seconded the motion, stating, as the representative of some large shareholders, that they were perfectly willing to subscribe for their proportion.

Mr. YORK said the largest shareholder (who resided in the neighbourhood of the mine) was quite willing to take his share of 3*l.* for 1*l.*, and he hoped shareholders would take up their proportion, and probably more if all were not applied for.

The resolution was put and carried unanimously.

The CHAIRMAN, in proposing the next resolution, said the reason the directors had fixed the time for calling up the instalments was to make the shares marketable, and to have money in hand to carry on the operations with energy. The resolution was as follows:—

2.—That 10*l.* per share be paid on application, 10*l.* on allotment, and the balance of 10*l.* by two equal instalments at intervals of three months.

Mr. BULLER seconded the proposition, which was put and carried.

The CHAIRMAN said the effect of the next resolution would be that each shareholder would receive a share of 3*l.* for 1*l.*, and he hoped shareholders would take advantage of the option, and so derive as much benefit as possible by receiving the advance of 2*l.* If then proposed the resolution, as follows:—

3.—That a discount of 5 per cent. be allowed on the 2*l.* per share, provided the same is fully paid up, either on application or on allotment.

Mr. GREENE seconded the proposition, which was put and carried unanimously.

The CHAIRMAN, in reply to a question, stated that Capt. Waters always had, and still had, the strongest opinion that the Wood vein would turn out well, although, for want of ventilation, operations in the 48 had been stopped for the time. They believed as it moved the shale it would become a splendid lode. It was now between 20 and 30 fms. from the surface.

A vote of thanks to the Chairman terminated the proceedings.

#### WHEAL KITTY (ST. AGNES) MINING COMPANY.

A general meeting of shareholders was held at the offices, Austin-friars, on Thursday. Mr. WILLIAM TEAGUE in the chair.

Mr. HICKEY (the secretary) read the notice convening the meeting, and the minutes of the last were confirmed.

The accounts showed that (after charging the thirteenth month's cost) a profit had been realised of 515*l.*, and a credit balance of 702*l.*

The report was read, as follows:—

March 2.—Pier's Lode: In the 112, driving east and west of cross-cut, the lode is 2*l.* wide, very promising in appearance, and yielding good stones of rich tin ore. The new shaft sinking under the 142 is producing saving work for tin. In the 130, driving west of new shaft, the lode is worth for tin 10*l.* per fathom. In the 130, driving east of new shaft, the lode is worth for tin 7*l.* per fathom. In the 118, driving east of new shaft, the lode is worth for tin 12*l.* per fathom. In the 118, driving west of shaft, the lode is worth for tin 7*l.* per fathom. In the 108, driving west of shaft, the lode is worth for tin 10*l.* per fathom. In the 30, driving east of shaft, the lode is worth for tin 8*l.* per fathom. In the eastern adit, driving west, the lode is very promising in appearance, and producing occasional stones of tin. We feel, in conjunction with others, the sadly depressed state of the tin market, making a difference of 40*l.* per ton of the same quality tin as credited this day, compared with that realised in 1872. This, with the very high price for all kind of materials and dearest labour, makes sadly against our profits, although our returns are much the same as they have been for some years past.—WILLIAM TEAGUE, SECRETARY.

Mr. HICKEY, JOHN WILLIAMS.

The CHAIRMAN said they had to join in the general lamentation of a depressed price of tin and a high price of coal and materials; but, seeing that they had charged up the thirteenth, or an extra, month's cost, amounting to 631*l.*, the result of the quarter's operations could not be regarded as unsatisfactory, inasmuch as it had resulted in a profit of 515*l.* They would have to draw upon the accumulated balance to pay the dividend he was about to propose—4*l.* per share—but the committee felt themselves justified in recommending that amount, after the payment of which there would be 50*l.* carried forward to the credit of the next account. Referring to the labour question, he stated that a great deal had been said and written of late upon the four-weeks month, but he confessed that he could not see any practical difficulty in reducing all surface labour to a payment of so much per day; they could then pay a fair day's wage for a day's work. When the question was fully discussed it was generally admitted the five-weeks month was a hardship to the miner, and it would certainly now be most premature to revert to the old system, because he believed with a little improvement in the times the question would have to be fought over again. His policy was to obtain as much labour as possible, but to pay liberally for it. The five-weeks system had been for a long time considered very objectionable, and as the four-weeks system had been generally adopted he considered they should give it a further trial, rather than attempt to return to a system from which they had only just emerged. Looking at the state of things generally, and the high price of provisions, he did not think they could expect to be able to obtain labour at less than 3*l.* to 3*l.* 10*s.* per month, and Cornish miners were not getting much more than that at present. In all the mines with which he was connected he had adopted this course—multiply the wages by 12 and divide the 12 into 13 parts. Upon the price of coal, a great deal had been said about a reduction having taken place, but the only difference he had yet found was 3*s.* per ton, and that was occasioned by a less freight rather than by a less price of coal. As stated in the report, there was a difference in the price of tin of 40*l.* per ton compared with what it was some time since, and had that price been realised during the past quarter the amounts before the meeting would have shown a profit of 2000*l.*, instead of 1150*l.*, which was the actual profit upon the quarter before the thirteenth month amount of 631*l.* was deducted. All circumstances considered, he thought they had reason to congratulate themselves they had done so well, and he could only express a hope that they would be able to do better in the future.

Upon the proposition of General WM. CLARKE, seconded by Mr. GATLEY, the accounts were passed and allowed, and (with the report) were ordered to be entered on the minutes.

Upon the proposition of the CHAIRMAN, seconded by Mr. CHESTON, a dividend of 4*l.* per share was declared.

A vote of thanks to the Chairman closed the meeting.

WHEAL OWLES (ST. JUST).—At a special meeting of adventurers, held at the Western Hotel, Penzance, on Thursday, it was unanimously resolved to stop Wheal Owles Mine, with the exception of a small part recently added to the stop called the Cliff part, and a month's notice of this intention is to be given to the men and also to the lords. At least nine engines, and possibly nine, out of eleven on the mine will be stopped. This cessation of working is entirely due to the present low price of tin, and it will seriously affect St. Just. A more able, industrious, persevering, and economical manager is not to be found in Cornwall than the pursuer of Wheal Owles, Mr. BOYNS. This mine has been at work about 40 years, and has from time to time made large dividends. Indeed, they could continue to rise about 60 to 65 tons of tin every quarter, but it would incur so heavy a loss, that the adventurers decided on stopping the mine. All the adventurers concurred in stating that they were perfectly satisfied with the management of the mine. Great sympathy is felt in the western district at this calamity, and much sympathy is felt for the pursuer and manager, Mr. BOYNS, who holds so large a stake in the concern, and who has worked for the general body of adventurers as if the concern has been entirely his own. It will be remembered that some few years since a valuable service of plate was presented to Mr. BOYNS by the Wheal Owles adventurers, for his successful management of the mine.

MID-MOONTA.—A general meeting of shareholders was held at the Cannon-street Hotel on Tuesday (Mr. Charles Morris in the chair), when Mr. P. Henry Pope (the secretary) read the notice convening the meeting. The printed accounts were passed, and the report of the directors was read by the secretary, comprising of the accounts received from the managing director in Adelaide. The present directors (the whole of whom retire, but were eligible for re-election) were unanimously re-elected. The meeting was then made special for the purpose of passing certain resolutions altering the Articles of Association, but were of no public interest. A vote of thanks was passed to the Chairman for his able conduct in the chair.

SPEARNE CONSOLS (ST. JUST).—A special meeting of shareholders was held at the Western Hotel, Penzance, on Thursday, to consider the position of the mine, &c., Mr. Richard White, the pursuer, in the chair. A considerable dividend took place as to the prospect of the mine, &c., when it was unanimously resolved (considering the mine could not be worked except at a loss to the adventurers) that the same be offered by public auction as a "going concern;" but if no sufficient bid is offered at the auction, it be then offered to the lords; and, provided they refuse to take it, then the materials be drawn to surface and sold. Spearne Consols is bounded on the north by North Levant, and on the west by Levant, and on the south by Botallack and Spearne Moor Mines. The workings are about 180 fathoms deep, and it has been in operation about 50 or 60 years. The late Capt.

John Cartwright worked this sett very successfully for several years, during which period about 10,000*l.* or 12,000*l.* in dividends were declared, but some years past the mine has been worked too often at a loss to the adventurers. Still, the sett is considered one of the best in St. Just for the productive character of its tin lodes, and with a fair price for tin might be made a remunerative investment; but just now the pursuer and anglers are, like too many others in the locality, "dead beat" by the times.

DENBIGHSHIRE CONSOLIDATED MINES.—At an extraordinary general meeting of shareholders, held on Wednesday, the resolutions for increasing the capital by 1500 shares, of 3*l.* each, adopted at the extraordinary general meeting, held on Feb. 18, were unanimously confirmed.

CALDECK FIELDS.—The half-yearly meeting of shareholders was held on Saturday (Colonel Salkeld in the chair). The Chairman, in moving the adoption of the report (published in last week's Journal), said that unless the mine was a success deeper—a course that all engineers who had examined it recommended—they might as well wind up the affairs of the company as cheaply as possible, and sell their plant and mine upon the best terms they could get: 10,000*l.* was needed for the purpose of sinking a further shaft; but, owing to the shareholders holding back, 5657*l.* of that remained unallotted. He was authorised to say that such confidence in the directors in the prospects of the company, that that meeting a few of them had agreed to take up 2210*l.* of the unallotted shares, provided the rest of the shareholders took up the remainder. The report was adopted, after which, in answer to an observation made by a shareholder, Mr. Brockbank stated that the liabilities of the company were 4000*l.*, so that 6000*l.* of the 10,000*l.* sought for would be applied to the extension of their works.—Mr. Brogden, M.P., Mr. Banks (Highmore House), and Dr. Tiffen were elected directors; and Mr. Mulester and Dr. Cowan re-elected directors; Mr. James Irving was re-elected auditor.

NEW TRUMPET AND LOVELL UNITED.—At the meeting, on Thursday, the annual accounts showed a debit balance of 804*l.* A call of 10*s.* per share was made. Under the economical management of Mr. Henry Rogers and judicious management of Capt. Quentrell, it is hoped this little mine will weather the storm. A fine 35-ft. water wheel will develop it for 30 fms. and stamp 1500*l.* Throughout 1873 its expenses will not be 1000*l.*, to say nothing of plenty of tin stuff at grass waiting the stamps and any of the tin which may be raised. A little water-power concern like this is now the best kind of speculation, and the heavy stakes held by the pursuer and manager, together with their repute for successful mining, will ensure that nothing will be left undone for the next few months in order to make the New Trumpet play as good a tune for the shareholders as the Old Trumpet has.

[For remainder of Meetings see to-day's Journal.]

#### STERLING INVESTMENTS.

It is evident that if I wish to stick to my text little, if anything, commendatory can be said of Cornish mining; the stereotyped advice of Mr. Punch, slightly altered, is quite apropos. "To those about to invest in tin and copper mines—Don't." It is not that the State of Denmark is rotten, and hastening to speedy decay, or total extinction, but that a lower depth is yet to be attained. In all probability, before the public can recover, that the glorious times of 1870, 1871, and 1872 will return I have little or no fear, and I will watch the hardy Cornish miner toiling beneath the Atlantic against the arrival of Lord Macaulay's New Zealand.

To the young speculator the prospects, doubtless, appear dark and dreary enough, a species of Cimmerian darkness; but a man of average luster remembers half-a-dozen similar panics, they come in cycles, always succeeded by brilliant revivals, sometimes too brilliant, when people lose their heads, and subscribe eagerly for shares in mines that have no existence save in "buildings" and in "chambers."

For a share in the Cornish commodity, necessary as gold, which drew enterprising Orientalists here, before the days of the Cornish tin, is not to be despised, and because it has been found in Australia. History records that the close of the Civil War ("One and All" were the supporters of the man Charles Stuart) left Cornwall prostrate, and the "tyne" trade almost annihilated. A few years elapsed, and it reached its highest pitch of prosperity during the 17th century, for during the Commonwealth it fetched 125*l.* per ton. During the reign of William and Mary "tyne" declined to 50*l.*, and great complaints were made of the grinding tyranny exercised on the pure "tyners" by the Cornish factors, who paid only twice a year—some 5*l.* 10*s.* per annum—which, as the chronicler has it, "is all that each poor tyner hath to maintain himself and family for his whole year's labour, not only under ground, but under God's heaven many grievances." At this time some 8000 mines, now called "ancients," were supposed to be employed, who raised about 1300 tons of tin annually. Out of the present crushing depression, however, great good has come, new channels of investment being opened to the outside public, in the shape of coal and iron companies. I say new, advisedly, since up to quite recent times shares in collieries were held firmly for private investment, and seldom came on the market. Indeed, there was no market for them; now, however, the dealings in Cardiff, United Bituminous, Ebbw Vale, New Sharlston, &c., far exceed in number and importance the transactions in Tincroft, Dolcoath, &c., and for every colliery quoted two years ago on the market there are now ten or a dozen.

A better class of investors seek the shares, men who a short time before would look at nothing more speculative than the best of foreign bonds, and they have been well rewarded.

More than one company has paid 60 per cent., several 25 and 30 per cent. Less than 15 per cent. the intelligent and discriminating investor says is "naught." It is gratifying to know that most of these high dividends are compatible with safety and good security; likewise that good dividends are secured whether the coal reaches their former figure or not, since the companies most in favour have based their calculation of profits on the average prices obtained previous to the great rise.

Bearing in mind that the substantial seams of coal, and beds of iron and fire clay, have not been discovered in the shifting and treacherous beds of ore in metal mines, I shall continue to recommend collieries and iron companies as more safe, remunerative, and lasting than tin and copper, and it may be useful to add that in all, whether quoted or not, I have business at current prices.

I have pleasure in directing attention to GLAISDALE WHINSTONE QUARRY, near Whitley, Yorkshire, a prospectus of which, containing the full reports, I will send to any address (free) on application. Those who have been accustomed only to invest in collieries, &c., will find the same safety here, and, I think I may add, the same dividends. I know of nothing that has been brought forward in a more straightforward and honourable manner, and I know that the statement in the prospectus may be relied upon. The vendor has had the quarry for some years in his family, and has spent several thousands in opening it out. It is now complete, and will be handed over to the company as a going concern.

Whinstone, from its peculiar density and toughness, is in great request with the leading Yorkshire city corporations, and, indeed, wherever it can be had; and as the dyke can only be worked in a few localities the supply is necessarily restricted, while a constant demand at improving prices can with certainty be relied upon. The dyke itself shows a solid face of stone 300 ft. in height, the width being about 80 ft. There need be, consequently, no fear of the quarry being exhausted before the termination of the lease. A self-acting incline, with siding, connects the property with the railway, and the stone is sent to the market by rail, and is sold to all parts of the kingdom; but, as before stated, the local demand more than absorbs the supply. The profit per ton on the whinstone, when the Blake's crusher is used, will be 3*s.* 3*d.*, and the output will not be less than 100 tons a day, consequently dividends of 25 or 30 per cent. may with confidence be relied upon. In fact, 80 tons a day, at only 2*s.* 6*d.* per ton, will allow of a dividend of over 30 per cent. on the capital now to be issued. Mr. Bottomley, of Whitley, reports—"I estimate that an output of 60 tons of rough stone and 40 tons of broken stone per diem might be made, which, estimating only for 250 working days to the year, would bring an annual revenue of 3187*l.* 10*s.* The whole capital is but 10,000*l.*, of which 2000*l.* is reserved for contingencies. Early application will be found to be necessary to secure shares."

WELSH FREEHOLD COAL.—Ever since the company acquired the lease of the adjoining new mineral property, the Nant-y-Bar estate—the shares have been more and more in demand for investment. The new acquisition comprises 700 acres, and contains the celebrated Wenall vein, respecting which the manager reported in December that the section of coal surpassed any he had seen elsewhere. In the lower measures they will have the famous Resolven vein, affording an immense reserve for future working. The estate proper, as I think I have before mentioned, extends over 2000 acres, and is 5 miles from Briton Ferry and 10 from Swansea.

As the mine denotes, it is absolutely free of rent and royalties, and possesses, in addition to 32,000,000 tons of coal and 9,000,000 tons of iron ore, 400 acres of growing timber, worth fully 20,000*l.* for pit props, &c., besides mansion house and colliery cottages. The selling price of the coal show a profit ranging from 5*s.* to 8*s.*, and as an annual output of 150,000 tons would be a moderate amount, it may be reasonably surmised that at least 25 per cent. will be earned. The present market price is 5*s.*

UNITED BITUMINOUS COLLIERIES.—It may not be out of place to remark that I was the first to call the attention of investors in the Journal to the advantages gained by securing an interest in these collieries, and since then a dividend of 15 out of 20 per cent. earned has been divided. I personally see no obstacle to the earnings shortly reaching 40 per cent., and, considering the state of the market, to be set aside as a reserve fund to recoup shareholders' paid-up capital. The moderate amount of capital (25,000*l.*) enables a 40 per cent. dividend to be earned very easily: 150 tons a day at only 6*s.* per ton profit will do it. From the smallest colliery—the Pelly Down—the output is now from 80 to 100 tons daily. The New Weig and Waime Hier Collieries complete the trio, and make up as pretty and compact an estate as can be found in South Wales, comprising 200 acres, and all within one mile of Swansea. The coal from all is in good local repute, as a red-ash house coal; it is also a capital coal for smelting purposes, and is bought up eagerly at the pit's mouth as soon as raised. The Great Western Railway, whose station is within a few yards of the pits, are good customers for the coke. Next interim dividend will be 10 per cent.

Mr. John Hopkins, M.E., an excellent authority on coal matters, says that in the worst of times the collieries, from being surrounded by public works, will always find a good demand for the coal, and can be little if at all affected by any depression in trade. He also says that the fire-clay under the properties will produce a revenue equal to the coal. It can be disposed of in the raw state with great profit (nearly 6*s.* per ton, same as the coal) to the tin plate, copper, and other works around, or by being made up into fire-bricks, for which there is at all times a great demand, the profit can be considerably increased. By doing this most of the small coal would be utilised on the spot. It says much for the moderation of the directors that in calculating dividends of 40 per cent. the profit to be made from bricks and coke was never taken into account. Of the fire-clay, which I have just shown will pay every whit as well as coal, there exists the enormous amount (computed) of one million tons. The bricks I have inspected seem as good as any I remember to have seen. They are made with the company's materials by contract for 4*s.* per 1000, the selling price of same being 5*s.*, and 6*s.* The plain statement of facts, as here set forth, requires no comment from me to show that if the shares advance to 30*s.* or 2*l.* they will still remain a desirable investment. That this is not an excessive figure will be seen when it is remembered that the 17*l.* shares of the Great Western Colliery advanced to 40*l.*, and while the Fife Coal and Benhar Coal Companies are at equally high premiums.

NEWPORT ABERCORN, in 10*l.* shares, 3*l.* paid. To those able and content to wait six or nine months while this magnificent property is being developed I know of no more desirable investment. Shortly stated, the company possesses in the Black Sea coal one of the best and most valuable assets the United Kingdom possesses, which may for all practical purposes be considered inexhaustible, since with the largest output in the district there would still be coal left even at the end of the 99 years lease. Time is all that is required. The first seam of coal will be struck at about 80 yards from surface; some 12 fms. more requires to be sunk. The small profit of 2*s.* per ton on the estimated output of 10 to 10 tons per day gives a revenue of 25,000*l.*, or over 25 per cent. on the capital employed.

CARDIFF AND SWANSEA (4*l.* paid) is too well known to require any notice from

me. The company pursues its prosperous career, and the next dividend will be a very satisfactory one to all concerned; it will be 8*s.* 6*d.* per share.

WEST MOSTYNS, 2*l.* paid.—Here, as in Newport Abercorn, the shareholders must wait a little, while the property is being opened up; but with this advantage, that for the first three years they are guaranteed 12 per cent. interest.

I may add that New Sharlston, Chapel House, Darlington, Wedgwood, Whitehaven, Mynydd, Clee Hill, Littleclun, Silkstone, Pail, South Cleveland are all built in at the current prices. On several of these advances are made when desired. —From Ferdinand R. Kirk's Circular.

#### ECHOES FROM THE MINING MARKET.

"The tin market is better." Such was the announcement that on Tuesday last shed a ray of hope (we trust it will not prove a transitory one) upon the mining market. At the time we write the improvement has been maintained—we cannot say more—although, strangely, no alteration has been announced in the tin standards.

No one appears to know why the market is better—in fact, scarcely a theory has been advanced to account for the improved feeling, nor has any special reference been made as to the success of the lately announced "combination," but the fact remains that a pause in the downward career of the tin market has certainly occurred, and this in its present sensitive condition may indicate a positive advance; we hope such will be the case.

Adventurers in Cornish tin mines, who have been frightened almost into absolute despair by the alarming statements as to the tin market, should be allowed to remain unmolested by the country. The country cannot afford at the present moment to bear any additional burden, but if once suspicion is awakened amongst investors that the manager of two trusted mines could sanction such an abuse of the very essence of the Cost Book System as to keep back costs for the purpose of bolstering up dividends, a rule shock would be given to public confidence in, at any rate, all the mines under this particular management, and we trust, for the honour of legitimate mining, that the statements are capable of contradiction. Of course, we have yet to hear the official explanation; but the fact remains that it is openly asserted that Carn Breva and Tincroft are heavily in debt.

The statements as to the extent in the former case vary between 5000*l.* and 12,000*l.*, but in the latter case 7000*l.* is named, and that, although these statements have been made in the most public manner—both in the London and Cornish press—they remain at the moment we write unchallenged.

Considerable attention has been given lately to the shares of colliery undertakings. Circumstances have tended to bring their merits more or less prominently before the public, and a good deal of business is now transacted in this class of security upon the market. That this attention on the part of investors is justified is apparent from the fact that the shares of nearly all the more known undertakings stand at a premium, whilst the dividends have been very satisfactory.

It cannot be gossamer, however, that the past year has been an exceptionally favourable one for colliery shareholders, and it is very doubtful whether we shall, at any rate, for some time to come, see coal at the famine prices ruling not long since. Still, taken as distinct class of mining investment, colliery shares have been holding their own well, and have attained a position amongst investors which is not likely to be lost. However the coal market may fluctuate, it is hardly within the bounds of probability that it will fall to an unremunerative price. Good and sound collieries have always proved fortunes to their possessors; and, as to any fear of serious reaction in the price of shares occurring, as coal finds a more moderate level, it has been justly remarked that "the recent great inflow of prices has been regarded as so much surplage, the market value of the shares, however, being based upon a much lower level of prices." Of course, as in all other investments, discrimination is necessary, and the public must be very chary of embarking in any of the deep and practically worked out collieries, owing to the recent excitement, have been resuscitated. In most cases they can have but an ephemeral existence, for their profits are based upon a range of prices which even now has almost disappeared. If the calculation of profits is made upon the average quotations of coal for the last four or five years it will, doubtless, be found a pretty reliable guide.

In the foreign mining market a noticeable decline has taken place in Emma shares. The most conflicting reports are rife, and shareholders generally are naturally in a complete state of bewilderment. The private information is stated to come from an undoubted source, yet again the directors have announced that their intelligence is most discouraging. In judging of the relative value of these very conflicting statements it may be as well to bear in mind that the private advice announcing a desperate state of affairs, received when the mine was in its heyday of market prosperity, were for a long time officially contradicted, and attributed to "bear" operations. Yet, in the end, they proved to be perfectly trustworthy. May it not turn out that the mining news has been again misled? It is singular to note that this time the gloomy news comes from the directors.

FRIDAY.—P.S. The hopes of an upward movement in the tin market have been suddenly dissipated by the announcement of a reduction in the tin standard. Cornish mining has now thoroughly realised the assertion that "in every deep there is a lower depth." When shall we reach the lowest?

FROM MR. ALFRED EDWD. COOKE (76, Old Broad-street, E.C.):—During the week a better feeling has existed in the mining market, and a few buyers of tin shares have appeared. After such a rapid fall in prices it is quite natural that there should be a slight reaction; but if buying orders predominate it will be found that the demand will exceed the supply of stock, as many holders are unwilling to realise at such a sacrifice. It is not considered probable that the present low price of tin will long continue, while it is admitted that labour is more plentiful, and coals and iron cheaper. These circumstances will tend to greatly benefit mining, and it is desirable that those who wish to take advantage of this opportunity should not delay. At the same time, it is essential that great caution and judgment should be exercised before embarking into mines with no promise of success, or utterly worthless concerns. No doubt, when business revives many adventures will be introduced, as they were in 1872, and we well know what has resulted. We may attribute the present collapse in a great measure to the indiscriminate rage that existed for new sets; calls have been constantly required, many unfortunate victims have been compelled to relinquish, and at length the mines have been abandoned. The same results will again occur if discretion is not used, and advice taken before entering recklessly into speculative concerns. Colliery prospects quite a new feature to investors, as the few quarries in Yorkshire are monopolised by private individuals. As I noted last week, the stone is now being laid open, and is being returned in large quantities. It is proved to be free from the ordinary risks of mining; in fact, the quarry exhibits a mass of stone, and gives ample evidence of the permanence of the undertaking. It is very accessible, being immediately connected with the North Eastern Railway, whilst no machinery is required beyond a stone breaker; thus profits will be made forthwith. I strongly recommend an immediate application for shares, having a perfect knowledge of the *bona fide* nature of the investment.

FRIDAY EVENING.—P.S. Since writing the above the tin standard has fallen, and consequently shares in tin mines have become almost unsaleable. It is considered that the worst is now at hand, and a reaction is looked upon as certain.

CORNISH PUMPING ENGINES.—The number of pumping-engines reported for January is 19. They have consumed 2215 tons of coal, and lifted 15.8 million tons of water 10 fms. high. The average duty of the whole is, therefore, 47,900,000 lbs., lifted 1 ft. high, by the consumption of 112 lbs. of coal. The following engines have exceeded the average duty:—

Engine	Millions	Duty
Cook's Kitchen—50 in.	47.7	
Crenver and Wheal Abraham—Sturt's 60 in.	57.1	
Ditto	57.6	
Pelly's 80 in.	57.6	
Ditto	57.6	
Williams's 70 in.	57.4	
Dolcoath—55 in.	57.4	
West Basset—Grenville's 70 in.	49.5	
Ditto	54.3	
West Chiverton—New 80 in.	50.1	
West Tolgus—Richard's 70 in.	54.5	
West Wheal Seton—Harvey's 85 in.	53.7	

CUTTING COAL.—Messrs. J. LUCAS and W. NICHOLS, of Leeds, has patented some improvements in machinery and appliances for cutting coal. In this invention a series of cutters on a revolving bar is employed. The cutter bar has an endwise movement into the coal about equal to the distance from one cutter to the next upon the bar. After an endwise movement is completed, the bar is advanced sideways into a position for the next cut, and so on. A supporting bar is employed to steady and support the revolving cutter bar.

BREAKFAST—EPPS'S COCOA—GRATEFUL AND COMFORTING.—By a thorough knowledge of the natural laws which govern the operations of digestion and nutrition, and by a careful application of the fine properties of well-selected cocoa, Mr. Epps has provided our breakfast tables with a delicately flavoured beverage which may save us many heavy doctors' bills. —Civil Service Gazette.

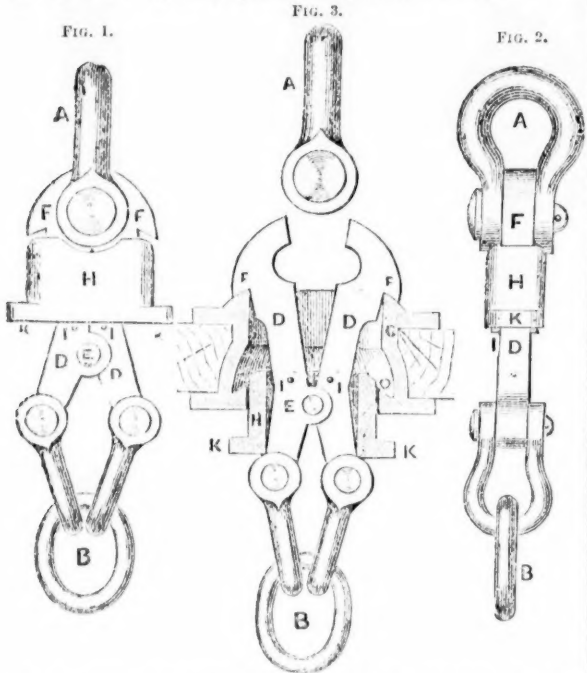
Made simply with boiling water or milk. Each packet is labelled—"JAMES EPPS and Co., Homoeopathic Chemists, London."

MANUFACTURE OF COCOA.—"We will now give an account of the process adopted by Messrs. James Epps and Co., manufacturers of dietetic articles, at their works in the Easton-road, London."—See article in Cassell's Household Guide.



## PREVENTING OVERWINDING IN COLLIERIES.

Brief reference was made in last week's *Mining Journal* to a modification of the Ormerod Detaching Hook, invented by Mr. W. WALKER, M.E., of Salthorn-by-the-Sea, which had been successfully tested at the Windham pit, Ogmore Valley, and the promised illustrated description is now subjoined. The improvement, both as compared with the original Aytoun hook and with that of Mr. Ormerod, consists in so attaching the cage or load to the lower end of the hook that when the pins are cut the weight of the load itself assists to take hold more rapidly. The principle of the invention has frequently been described in the *Journal* as being admirably simple, and Mr. Walker claims that with the modifications he has made it is so perfectly adapted to the end he has in view that where it is used overwinding is rendered impossible, and perfect safety is obtained from the fact that if the load be raised above a certain point the weight of the load compels the rope to become detached, which detaching cannot take place until the jaw hooks have a firm hold on the supporting ring. It is remarked that the apparatus can be easily applied to every rope permanently raising or lowering a load, whether loose or secured in its travelling position by skeets or guides, and particular attention is drawn to the twofold cause of safety found in this hook. Supposing what is a practical impossibility, that the load did not force open the jaws, the bottom flange of the ring would press the clamp against the incline of the lower limbs, thereby causing the jaws to open and the jaw hooks to act.



In the above diagrams Fig. 1 is a front view of the hook, Fig. 2 an edge view, and Fig. 3 a front view of the whole apparatus, with the supporting ring and clamp in section, showing the hook just after the liberation of the lifting rope. The same letters refer to the same parts in both figures.

The lifting rope is attached to the shackle A, and the load to the connecting link B. The supporting ring, C (through which the rope is constantly working), is a fixture in a baulk of timber, or iron girder, at the pit top. The hook consists of a pair of jaws, D, D', working on a centre pin, E, in such a manner that the weight of the load has a tendency to open the upper limbs, which clip the strong centre pin of the shackle, A. The upper limbs are formed externally with jaw hooks, F, F'. The jaws are kept together, and made to retain the shackle pin by means of the clamp, H, which is held in position by the pins, I, I'. In case of overwinding the jaw hooks (held together by the clamp), pass freely into the ring, C, but the projections, K, K, of the clamp coming into contact with the bottom flange of the said ring hold the clamp stationary, while the jaws are being pulled through, the result being that the pins, I, I', are sheared off, and the jaw hooks released from the restraint of the clamp. The internal diameter of the ring being the same as the width across the jaw hooks, F, F', the rope remains secure, until the jaw hooks reach the top of the ring, when, by the action of the weight of the load, they are forced open, and so hook on to the top of the supporting ring, C, as shown in Fig. 4, the rope passing harmlessly over the pulley. The recess, O, in the ring, C, is intended to meet an imaginary case that experiment shows to be almost impossible—that if the engine is reversed after the pins, I, I', are cut, and before the hooks reach the top of the ring, the jaws will then hook into the recess, and the load remain suspended in perfect safety. It will be observed that the upper edge of the ring, C, is curved to match the sweep of the jaw hooks when opening. By this arrangement all shock is avoided.

It is a great advantage with hooks of this class that they can be almost instantly re-adjusted after the occurrence of an accident, neither rope nor cage being injured by the overwind. Although increased care on the part of the engineer will, doubtless, do much to diminish the number of accidents from overwinding, the present invention appears to be well worthy of general adoption, since it is one of those which it is not likely to tend to cause carelessness, as by the use of a suitable seal on the soft pins every case of overwinding could be readily detected, and adequately punished by fine or otherwise, whilst neglect would not be attended, as at present by loss of life. The invention displays great ingenuity, and appears likely to give very general satisfaction.

**ECONOMIC TELEGRAMS.**—Since the telegraphs have been in the hands of the Government we have become so accustomed to telegraphic inter-communication that we have gradually grown more and more impatient in sending our orders to distant correspondents, and obtaining their reply through the ordinary postal channels; but when it is a question of communicating with foreign countries the cost of telegrams is still so high that much difficulty is frequently experienced in retaining the intelligibility of a message, and at the same time so abbreviating it as to keep the cost of transmission within reasonable bounds. To remove this difficulty Mr. W. Clausen Thue has arranged a very ingenious code—"The A B C Universal Commercial Telegraphic Code"—admirably adapted for the use of merchants, brokers, and, indeed, all having correspondents at a distance. The book (which is published by Messrs. E. and F. N. Spon, of Charing-Cross) is so arranged that any ordinary business message can readily be transmitted, either by code or cipher, and read with the utmost facility by the correspondent receiving it. By way of example, we will suppose the secretary of a London company wishes to send to the superintendent of the company's property in Australia the message—"The machinery will be finished by the beginning of next week, and we have arranged to ship by the next sailing vessel. The share market is dull in consequence of the large stock of tin on hand, but an improved demand is looked for. Have you enough stores for the winter?" Here we have a message which conveys much information, it is true, but it contains no less than 50 words, which at the rates to Australia would come to a rather serious amount. By the A B C code it can be sent in ten words—"Madcap slipperiness. Skillful massacre spouseless Hyllas derange. Enshrine squinting wonder," and the correspondent in Australia could transcribe the message word for word as it was originally. The method of sending in cypher is just as simple, but it is unnecessary here to explain the method of using it. The code is extremely useful, and will unquestionably come largely into use amongst business men.

**TRACTION-ENGINES.**—Messrs. R. C. PARVIN, of Farmington, and N. OVERMAN, of Canton, Illinois, have patented some improvements in traction-engines. The improvements relate to a traction-engine designed for use on roads and for various agricultural purposes, and particularly for steam ploughing. The propulsion of the engine is accomplished by a traction band or endless carrier. This band is caused to move by suitable gearing connecting with the boiler located in the front part of the engine. The traction band is provided with transverse bars or feet, which are alternately dropped upon and taken from the ground. The feet

are formed with rounded or convex faces, and the frame upon which the traction band is hung is secured to the boiler through a joint in such a manner that neither the front or rear section of the engine will be raised off the ground by an obstruction; the boiler is sustained in front by guiding-wheels; the ploughs are secured at the rear end of the engine, and are made adjustable by suitable means.

## FOREIGN MINING AND METALLURGY.

The reduction noted in coal in France still continues very general; in proportion as the winter wears away the market exhibits an almost unexampled quietness and feebleness. Almost all industries have been adversely affected by the recent extraordinary dearthness of coal, and the state of affairs becomes almost every day more sombre. It is not merely the prudence of purchasers which checks the demand for coal, but it is the inexorable necessity for lower quotations, arising from the general depression which weighs down almost all industries, checked in their progress by the late extraordinary advance in combustibles. At Paris, where domestic consumption is relatively important, the demand has become more feeble. In the basins of the Nord and the Pas-de-Calais the state of affairs, although presenting some divergences, indicates, nevertheless, the same tendencies. The intelligence received from Rhenish Prussia shows that the Ruhr basin is participating, in common with the French coal basins, in the general downward movement in coal, albeit that any reduction was in the first instance stoutly resisted by German coalowners.

We can still only repeat the statement which has been made once before, that there is comparatively little passing in the Belgian coal trade, that business generally is in a sluggish state, and that deliveries are much reduced. Several coalowners in the Mons group have undertaken to make deliveries to their clients until July 1 at the present reduced rates; this would seem to show that colliery proprietors consider it necessary to force sales to some little extent. Wages are declining in Belgium, and the miners have accepted the reduction without saying very much, a course which would seem to show that they regard the future less hopefully than some of their employers. The condition of surrounding industries is certainly not calculated to assist the Belgian coal trade. Thus metallurgy is at a very low ebb, the rolling-mills being without work, while the blast-furnaces are compelled to carry their production partly into stock. Coke is obtainable at almost any price which purchasers choose to give for it. The depression—not to say panic—in the coal trade is the most severe at Liège, but it is very sensible also at Charleroi. The lowest prices at the last adjudication for the State lines are accepted by several coalowners in search of outlets for their production. The Bonne Espérance and Batterie Collieries Company commenced the payment on Tuesday of a second dividend for 1873, at the rate of 2*l.* per share.

The depression in the Belgian iron trade still continues, although, perhaps, it is less severe than hitherto. Some orders for girders, rails, and plates, obtained at not very remunerative prices, have, it is true, given a little life to some privileged works, but the general tone of transactions is far from being what could be desired. Prices, nevertheless, exhibit some firmness. The continuous fall in coal has naturally brought about a slight reduction in pig, as well in Belgium as in the Grand Duchy of Luxembourg, where a quotation of 3*l.* 4*s.* per ton tends to become general. This price would enable ironmasters to produce pig upon rather favourable conditions if serious purchasers presented themselves. It is affirmed in some quarters that the consumption of iron is decreasing in Belgium; this is, however, to say the least of it, very doubtful, and we should rather attribute the present depression to the hesitation of ordinary clients, who are waiting, notwithstanding, perhaps, pressing requirements, for a further possible reduction in prices. It is not only the Belgian iron trade which makes complaints, but correspondence from Germany, Austria, and Hungary also indicates an almost complete stagnation in business, and even a more unfortunate state of affairs than that which prevails among Belgian firms. At a recent adjudication on behalf of the Belgian State lines the Selslein Company offered 5*l.* 12*s.* per ton for old steel rails. At the same adjudication the average of the offers made for the supply of 310 tons of iron rails was as nearly as possible 10*l.* 8*s.* per ton; the Selslein Company offered to supply the lot at 10*l.* 4*s.* 10*d.* per ton.

The intelligence received from the various French metallurgical centres is a little more satisfactory, and except in the arrondissement of Nancy, where the state of affairs remain very bad, a slight improvement has been generally established. In the Champagne group charcoal-made pig has been dealt in at 5*l.* 12*s.* to 5*l.* 14*s.* per ton, and No. 3 coke-made pig at from 5*l.* 4*s.* to 5*l.* 16*s.* per ton. First-class rolled iron coke-made pig has been quoted at 9*l.* 4*s.* to 10*l.* per ton; ditto rolled iron from charcoal-made pig, 11*l.* 12*s.* to 12*l.* per ton. In the Nord the price asked for first-class iron is 9*l.* 4*s.* per ton, and for large plates 13*l.* per ton. A projected amalgamation between the Northern and Eastern Mines and Ironworks Company (a French undertaking) and the Acoz Forges Company (a Belgian enterprise) has failed for the present; at any rate, an adjournment of the combination was decided on by the shareholders in the Acoz Company last week. Among the orders for rails which have been given out by French railway companies during the last ten months may be mentioned one for 1000 tons of steel rails allotted to the Terrenoire Company by the Eastern of France Railway Company; one for 2010 tons of iron rails allotted to the Vezin-Aulnoye Company by the Vosges Railway Company; and one for 7700 tons of iron rails allotted to the Aveyron Collieries and Foundries Company by the Nantais Railway Company. The orders for rolling-stock given out in France during the last two months have been very limited, being confined, it is stated, to five locomotives and 25 goods trucks; hence French rolling-stock manufacturers complain a good deal of want of work. The total production of pig in France in 1873 is returned at 1,381,000 tons, or only 17,000 tons less than the corresponding production of 1869, when the make attained its maximum. The augmentation in the production of 1873, as compared with 1872, was not less than 200,695 tons. The total production of iron in France in 1873 was 906,745 tons, against 883,079 tons in 1872, showing an augmentation last year of 23,666 tons. Comparing last year's production with that of 1869 there was, however, a deficit of 126,000 tons. The total production of steel in France in 1873 was 167,677 tons, against 138,552 tons in 1872. The fabrication of steel has decelerated in France since 1867, and the ascensional movement seems likely to continue. The total consumption of rails by French railway companies last year was 188,815 tons; of these 124,717 tons were iron rails, and the balance steel rails. The Paris, Lyons, and Mediterranean Company alone consumed last year 32,500 tons of steel rails; the Northern of France took 14,625 tons; and the Western of France 9871 tons. As compared with 1872, the consumption of iron rails increased in France last year to the extent of 20,750 tons, while the consumption of steel rails increased 11,903 tons. The rails imported for the railways of France amounted last year to 8544 tons of iron rails and 2000 tons of steel rails. The municipality of Marseilles has imposed an octroi duty of 16*s.* per ton upon iron used for building purposes in that city.

There has been no great amount of business passing in copper at Paris; quotations have been sustained, nevertheless, at 82*l.* per ton for Chilian in bars, 88*l.* per ton for ditto in ingots and tough English, and 87*l.* per ton for Corocoro minerals pure copper, the whole to be delivered at Havre. Quotations for Chilian have been heavy upon the Havre market; at Marseilles prices have also been rather more feeble. Upon the German copper markets the state of affairs has been generally weak. The fall in the English tin markets has exercised an adverse influence upon quotations for tin in Holland; Banca has declined from 65*l.* to 63*l.* 1*l.*, and Billiton from 64*l.* to 62*l.* 1*l.*. Consumers have profited from this state of affairs, and have made purchases at the reduced rates. The Paris tin market has remained without much business. Banca, delivered at Havre or Paris, has made 118*l.* 8*s.*; Straits ditto, 114*l.*; and English, delivered at Havre or Rouen, 114*l.* per ton. At Marseilles tin has been very quiet, and prices have been feebly sustained. Upon the German tin markets the amount of business passing has been comparatively insignificant. The Paris lead market has become weaker. At Marseilles lead remains without demand, and with a downward tendency. The German lead markets have been very dull, and comparatively little business has been passing upon them. There has been little business doing in zinc at Paris, and prices have exhibited no variation. Rolled

Vieille Montagne zinc has been quoted at Marseilles at 34*l.* 16*s.* per ton. The German zinc markets have been very quiet.

## THE CORUNDUM VEINS IN NORTH CAROLINA.

"Note on the occurrence of Sapphires and Rubies *in situ* with Corundum, at the Calsage Corundum Mines, Macon county, North Carolina." By Colonel C. W. Jenks. Communicated to the Geological Society of London by Mr. David Forbes, F.R.S., F.G.S.

The mine described in this paper is in a hill situated about nine miles east of Franklin, the chief town of Macon county, rising about 400 ft. above the valley. The hill is a boss of serpentine protruded through the surrounding granite. The corundum occurs in five nearly parallel veins, cropping out for about a mile along the steep side of the hill in a direction N.E. and S.W. The veins all dip to the S.E. about 45°. They are thin at the surface, but widen out as they descend, the thickness of the vein in the deepest working (75 ft.) being about 10 ft. They consist of a mass of chlorite, Jelfersite, and corundum, the latter forming from one-third to one-half of the mass, and occurring in crystals imbedded in the other minerals. The author gives a list of several minerals which also occur in the veins, including two new silicates, which Professor Genth has called Kerite and Maconite. Analyses of some of these minerals and of the serpentine rock are appended to the paper. Some of the crystals of corundum weigh as much as 300 lbs. The corundum is crushed and used for grinding and polishing stones, glass, and metal; about 200 tons have been extracted from the mine. The colour of the crystals is very variable, and some of them show different colours in different parts. Many rubies and sapphires have been already procured and cut for setting.

Mr. WARINGTON W. SMYTH considered the communication made by Colonel Jenks as a very important and interesting one. He referred to the nature of these gems, and expressed a hope that Colonel Jenks's further operations might result in the discovery of large and fine crystals.

Mr. D. FORBES remarked that much credit was due to Colonel Jenks for having followed up the fragmentary evidence which he originally obtained with such good results. The origin of these gems had long been a disputed point; all those hitherto obtained have been found in a waterworn state in the beds of streams. Colonel Jenks had discovered the actual home of the so-called oriental ruby and sapphire.

Prof. TENNANT observed that Mr. Sheppard had years ago brought home sapphires from the same district. They were obtained from the beds of rivers.

Colonel JENKS gave some further statements with regard to the depth to which the corundum veins referred to in his paper have been worked, and stated that some of the crystals obtained from the veins could be broken across by a very slight pressure in the fingers when first taken from the vein, but that they became hard by exposure to the air.

## NORTH STAFFORDSHIRE INSTITUTE OF MINING AND MECHANICAL ENGINEERS.

A meeting of members was held at Stoke-on-Trent on Monday, when Mr. HOMER, the president, occupied the chair.

The PRESIDENT read the first part of a paper which he is preparing on "The North Staffordshire Coal Field, with the Ironstones contained therein," showing the extent of the various measures of mines in the district. The paper was of an interesting description, though incomplete. The President, who was thanked for it, said the sections would require further revision before they could be published.

A short discussion arose out of the paper which at the last meeting was read by Mr. Benjamin Woodworth, of Longton, on the "Economic Application of Steam-Power to the Drainage of Mines, and Raising of Minerals therefrom." Mr. J. LUCAS said he agreed with the paper so far as it went, but he looked forward to it expecting it would embody something else. He was hoping it would have shown a substitute for lading water when filling a bowk at the pit bottom when sinking. He expressed himself in favour of having an ejector with flexible hose, instead of employing manual labour.

—Mr. COX and Mr. PLANT questioned whether such an arrangement would answer where, as in a pit-shaft, the water was not clean. —Mr. W. HEATH said there was an ejector at work at Holly Lee Colliery; it threw over 16,000 gallons of water an hour. There were two boilers, 30 ft. by 5 ft. 6 in., so that it would require three boilers to do the work constantly. —Mr. HAINES (the secretary) said this system would not be an economical one. —The PRESIDENT thought it might answer as a temporary arrangement, though he thought it would be too expensive for permanent use. —The further consideration of the paper was adjourned till the next meeting.

The new members elected, of whom there were 18, include Mr. Robert Heath, M.P., Mr. Stanier Broade, and other large coal and iron masters of the district.

## SOUTH MIDLAND INSTITUTE OF MINING, CIVIL, AND MECHANICAL ENGINEERS.

There was an ordinary meeting of members at Wolverhampton, on Wednesday, when Mr. H. BECKETT presided, and there were likewise present Messrs. W. H. Glennie, S. Watkins, W. D. Munroe, S. Tolley, Biggs, Mincham, D. Davies, W. Underwood, T. Tatlow, J. Hodgkiss, B. P. Walker, T. Claridge, J. Lait, jun., A. Nurgan, and T. Eglington.

Mr. LEACH attended to explain certain diagrams relating to a patent apparatus for the condensation of smoke, gases, and the like, which is now in operation at the wireworks of Messrs. Johnson and Hobbs, in Manchester. The members appeared to be of opinion that, whilst it consumed smoke, the appliance was more especially applicable to the utilisation of chemical emissions.

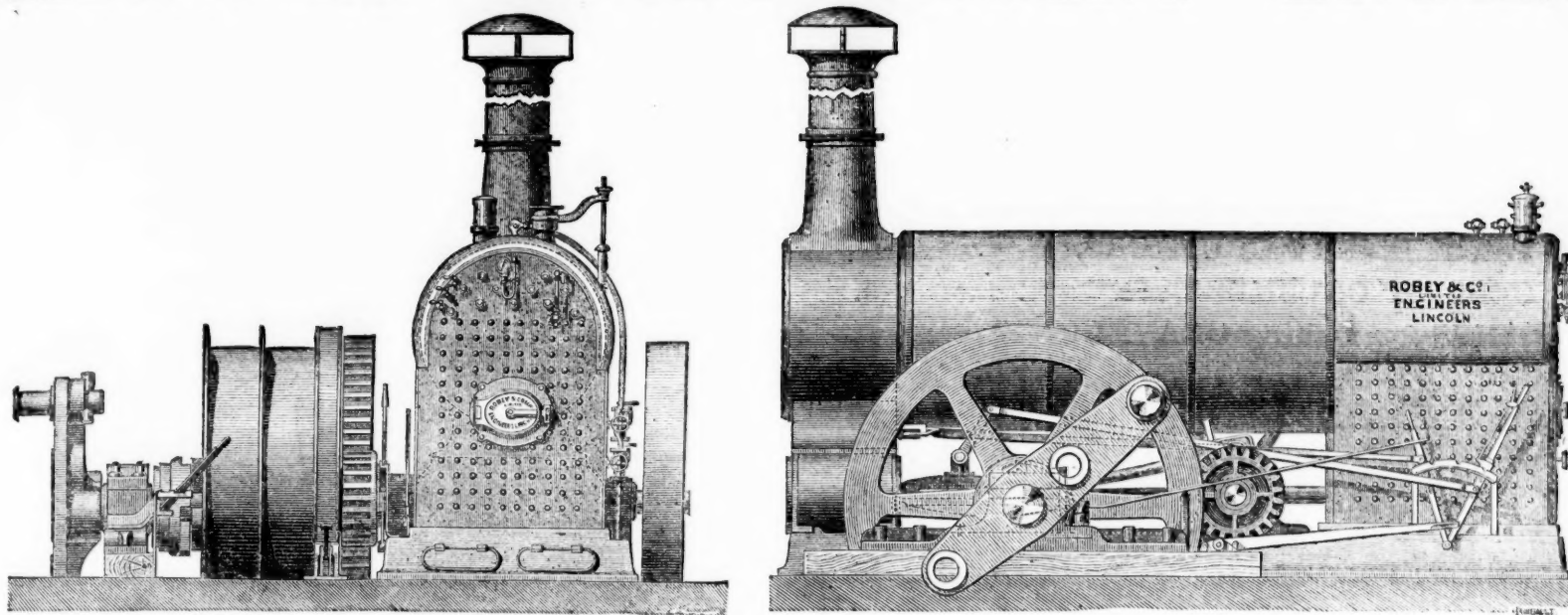
Mr. B. P. WALKER then brought before the notice of his fellow-members the leading features of Frisby's patent furnace, which, he explained, was an American invention. Many of the furnaces were, he said, in use in the States, and they had begun to get into operation in this country, chiefly in Birmingham and the neighbourhood. The apparatus appeared to be most adaptable for glass making and the heating of copper; and he believed it was quite suitable to mill furnaces. For himself, he was about to apply it to the purposes of an air furnace. The invention enabled a uniform intense heat to be maintained, and by the use of slack alone—all this at the expenditure of 20 per cent. less slack than the ordinary quantity of large coal. Whilst this was accomplished the nuisance of clinkering on the furnace bars was avoided, and the combustion of smoke was, under careful management, complete. Mr. Walker thought very highly of the invention, which he illustrated by a model, and he promised to give more particulars after he had tested it at his own works, where, as soon as it was ready, he should be happy to show it to the members. In the discussion which followed Mr. Claridge, Mr. Stephen Watkins, Mr. Glennie, the secretary, Mr. Fenn, and others took part. It seemed to be the general view that the invention indicated the applicability of economy and effectiveness in several classes of furnace, but there was not such unanimous concurrence as to its suitability to the process of puddling.

The SECRETARY made important announcements as to an interesting and valuable series of papers for which he had made arrangements to be brought on for discussion at the ensuing monthly meetings. The subjects will embrace both mechanical and mining engineering, and the experience of the authors will relate to both North and South Staffordshire. He (the secretary) likewise made known that the Council had had before them the topic of suppressing fire in mines, and he stated that steps would be taken to introduce it upon the first favourable occasion.

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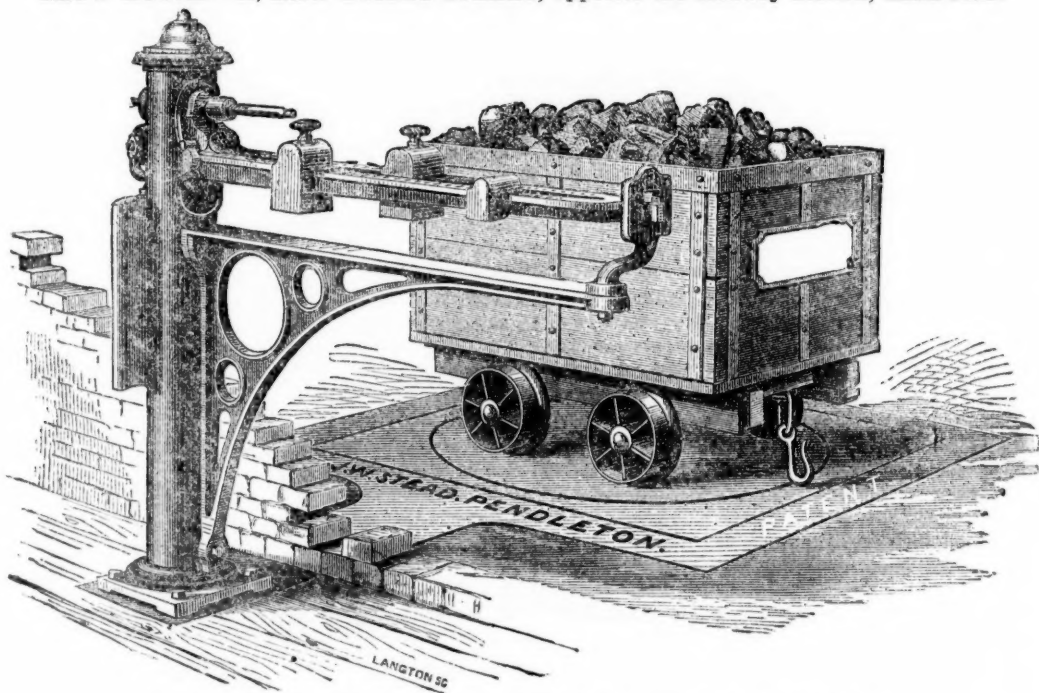
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**Mr. COULTAS DODSWORTH, of Haydon Bridge, writes, on the 15th January, 1874:—**"I have just returned from the Stoncroft and Greyside Mines, where I have seen your 'Patent Ore Dressing Machinery' at work, with which I must say, I was highly pleased. It is decidedly the best machinery I have ever seen for the purpose, the results being as near perfection as possible, and I am quite sure its use in this case will be a very great saving to the company. No large mining establishment should be without your machinery, especially when labour is difficult to procure—a mere fraction of the hands being only required as against the old system, and the work at once much better done, and a great saving of ore effected. I have heard it said that your machinery is better adapted for poor than for rich ores, but from what I have seen to-day I am quite confident it will do for any kind of ores. I beg not only to congratulate, but also to compliment, you on the great success of your 'Patent Ore Dressing Machinery.' You may use this letter as you think proper."

**Mr. MONTAGUE BEALE, Managing Director of the Cagliari Mining Company (Limited), says, on May 15th, 1874:—**"I have much pleasure in speaking of the great efficiency of your 'Patent Dressing Machinery,' as erected by you at our mines at Rosas, in the Island of Sardinia. You will remember it has always been considered impossible to dress, or rather separate, the minerals our ores contain by machinery, but our captain assures me he gets a constant return of 76 per cent. of lead with the greatest ease, and I know by the returns we are realising the best market price. I consider this company is much indebted to you for the success you have achieved at so small cost. It may interest you to know, from my experience in several of the British possessions, including the whole of the Australian Colonies, that my opinion is I have never seen any dressing machinery that can efficiently, and at so small a cost, dress, and separate metallic ores, however close the mechanical mixture may be, as yours. You can use this letter in any way you like."

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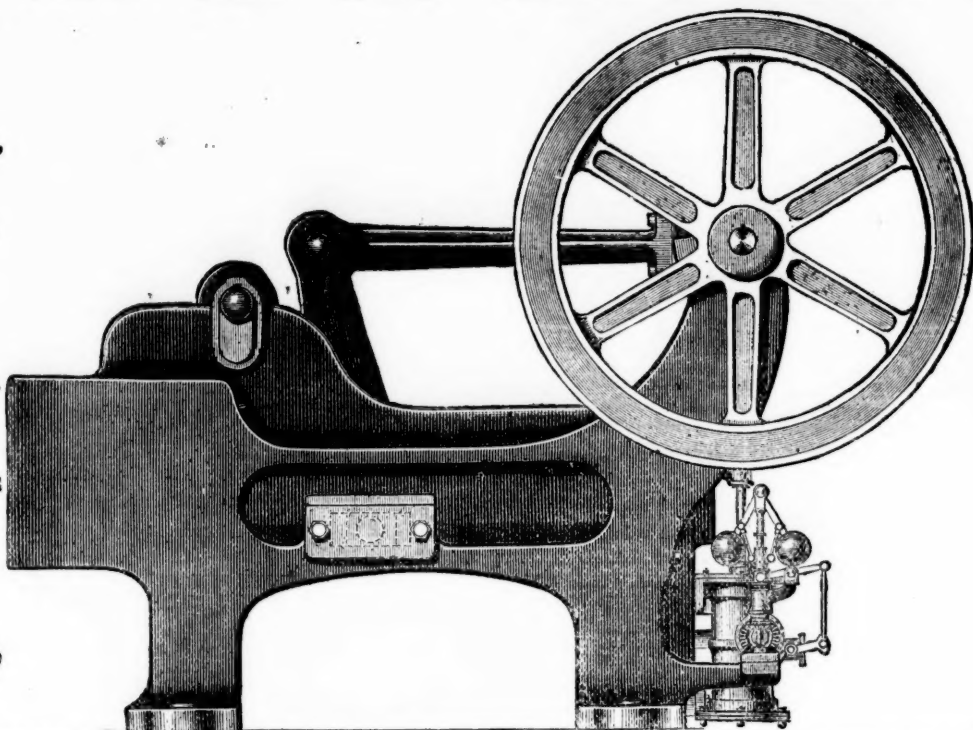
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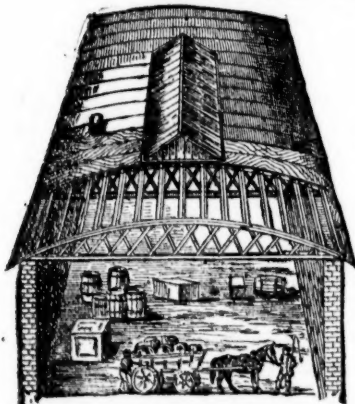
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